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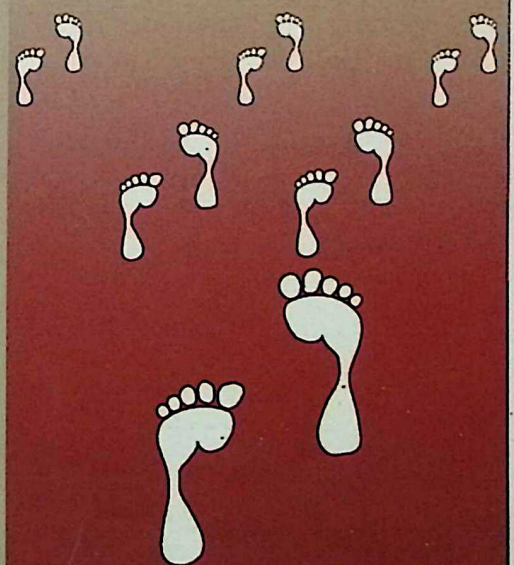

CENTRE FOR STUDIES IN CIVILIZATIONS
NEW DELHI

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The Journal of Centre for Studies in Civilizations, Sandhān, is a biannual journal. It accepts and publishes original articles from scholars and intellectuals in areas of interdisciplinary studies and civilizational dialogues.

Each regular issue will contain full-length articles, information about CSC symposia, comments, discussions, book reviews, and news and notes on various academic activities of the Centre.

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CENTRE FOR STUDIES IN CIVILIZATIONS
Darshan Bhawan
36, Tughlakabad Institutional Area
New Delhi-110 062 India
Phone: 91-11-2605 6657, 2605 7541 Telefax: 91-11-2605 8735
E-mail: csc@del2.vsnl.net.in, dpc@cal.vsnl.net.in

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From the Editorial Desk

The Centre for Studies in Civilizations continues to endeavour to explore and assert how the religions, philosophical and scientific in the historically past, geographically separated intellectual networks develop and interact effectively. There is a consistent search to unravel the unity of human knowledge in its very wide sense. In the modern age, marked by university systems, research community, fast travel, print and electronic media, it appears very difficult for us to reconstruct the historical, pre-historical and historic phases of the intellectual networks of the ancient and medieval periods. Different forms of knowledge and their present day specialisations should not make us blind to their thematic and conceptual overlap.History, Sociology and Anthropology, Science and Cosmology cannot be sharply demarcated because of their historically shifting boundaries. It is fascinating to explore the affinity between cultural systems, convergence of political structures and similarity between art forms all due to continuous interaction between the human beings living on the globe.

In our present day context most of us feel that compared to the history of religion and philosophy that of science and technology is believed to be more influential in shaping the course of human history taken as a whole. However, it would be an over-simplification to separate religion, philosophy, history and history of science and technology.

Sandhan through its contributions from intellectuals and academics belonging to various disciplines tries to bring together

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fresh approaches, many points of view and their underlying affinities.

D.P CHATTOPADHYAYA
Editor

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Sandhān, Vol. VI, No. 1, January–June 2006

ARTICLES

Mahendra Prasad Singh

Multicultural Identity and Democracy in India

My purpose in this paper is to discuss the nature of the twin-born phenomenon of nationalism and democracy in India. Both are axial values of Indian modernity. Despite partaking in the universal phenomenon of nationalism, its Indian version has some distinctively national and mixed (Western) genealogies. Despite its undemocratic potentialities, Indian nationalism is, in my understanding, by and large, a democratic phenomenon. My argument is that civic Indian nationalism and federal democratic constitutionalism are not only historically constitutive of each other but also mutually sustaining in their contemporary complex dynamics. Indian civic nationalism in my understanding is predicated on the all-inclusive imagined Indian national community, accommodating multicultural cleavages cohabiting in the territorial boundaries of the Republic of India.

Evolutionary Trajectory

Indian nationalism is agglomerative in its inclusionary cultural foundations[1]. This composite cultural formation is an evolutionary by product of the structures of Indian subcontinental geography and history. The natural physical boundaries of this landmass surrounded by the Himalayas and the oceans served as a territorial

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template for a kind of socio-cultural formation marked by an overarching unity in diversity that made possible shared destinies of an admixtures of races and linguistic and religious communities, both indegenous, migrants and aggressors from the Mediteranean, Central Asia, Mongolia, Persia, Arabia, and Europe. All major world religions and indigenous anismistic faiths and four major and minor linguistic families—Indo-European, Dravidian, Tibeto-Burman, and local tribal tongues—are present even in divided India. The nature of this subcontinental culture causes the suffix Indo- to such cultural constructions as Indo-Islamic sects and Indo-European linguistic family to which Sanskrit belongs.[2]

Given this cultural crucible, it is hardly surprising that the ruling elites in South Asia were animated by ambitions of sub-continental state power, especially during the periods of the states founded by the Mauryas around the third-second centuries BC, the Mughals in the sixteenth-seventeenth centuries CE, and the British in the mid-eighteenth to mid-twentieth centuries. Larger regional kingdoms like those founded by the Guptas, Harshvardhan, Sultans of Delhi, Vijayanagara Rayas, Marathas, etc. were also propelled, if less successfully, by similar designs of subcontinental political power[3].

Given also the wide scatter of religious, bhakti, and sufi shrines throughout the subcontinent, the mass culture was also pretty subcontinental in scope. Both bhakti and sufi saints belonged to heterodox Hindu and Islamic systems of socio-religious thoughts and practice respectively. Bhakti and sufi saints, for example, wrote and preached in the prevalent language of the folks rather than in Sanskrit or Persian. They also tended to reject caste and religious differences in the society of their respective regions of the subcontinent. The linguistic connectivity was facilitated in the subcontinent by Sanskrit, Pali/Prakrit, Persian, and Hindi/Urdu.[4]

With the advent of the British rule, English, like Sanskrit and Persian in the past, became the language of the all-India elite. Urdu/Hindi, what Mahatma Gandhi called Hindustani and advocated for adoption as the linguafranka of the emergent Indian nation, started its uphill task to transform its early existence as the

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language of the mass public sphere—army, market, media, and popular communication. The Constituent Assembly of India adopted Hindi in Devnagri script and English as the official languages of the Union of India. Fifteen years thence, Hindi was to become the sole official language but this switchover was stalled by protests interspersed with violence, especially in Tamilnadu, in 1965. Under the improvised Nehru formula English was allowed to continue indefinitely until Hindi was consensually accepted as the sole official language of the Union. By the three-language formula states agreed to promote English, Hindi, and the regional language of the state concerned. With patchy implementation the status quo seems to be continuing indefinitely.[5]

Besides the foregoing aggregative notion of Indian nationalism, there is the related constructivist or emergent view of it whereby it is more than a mere sum total of its parts. To quote Amartya Sen:

> The inclusionary view of Indian identity, which we have inherited and which I have tried to defend, is not only not parasitic on, or partial to, a Hindu identity, it can hardly be a federation of the different religious communities in India: Hindu, Muslim, Sikh, Christian, Jain, Parsee and others. Indian identity need not be mediated through other group identities in a federal way. Indeed, India is not, in this view, sensibly seen even as a federal combination of different communities.[6]

Figurative rather than precisely, political science use of the term "federal" here notwithstanding, Sen here also slips from the plane of rhetorics to the plane of philosophy of "being" and "becoming." He seems to reject the idea of the absolute other and step on the idea of inclusionary difference where difference could be the third space between the same and the other[7]. Sen's point is well made and would appear to have empirical validity as well as theoretical fruitfulness both as an instrument of interpreting the rational in Indian history and of reconstructing India's "Tryst with Destiny." This is particularly pertinent and topical at a time when the rise of identity politics world-wide after the universalist ideological ambience of the

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post-World War II and Cold War years has drawn attention from "economic harms" to "cultural harms." This has brought forward the phenomenon of "the widespread decoupling of cultural politics from social politics, of the politics of difference from the politics of equality"; and it casts upon us the task "to devise an expanded conception of justice that can accommodate both defensible claims for social equality and defensible claims for the recognition of difference".[8]

Amartya Sen rejects the notions that Indian identity must always have a presumptuous dominant strand or a self-same static identity. In an interesting review of Sen's book Ramachandra Guha discerns at least four multiple elements in Sen's own identity on display in this work:

> First, there is the *Bengali cosmopolitan*, the product of an intellectual culture that while deeply rooted in its language and region, has yet had the longest and most sustained exposure to the winds—not all noxious—blowing in from the west. Second, there is the *Indian liberal*, his consciousness shaped by the transition from colonialism to nationhood, the firm upholder of the freedom and integrity of an independent India, yet one who refuses to reduce the nation or nationhood to a single cultural or religious essence. Third, there is the *left-wing democrat*, who deplores inequalities of all kinds—but of class and gender especially—yet believes that in shaping a more just word "what is really needed is a more vigorous practice of democracy, rather than an absence of it". Fourth, there is the *broad minded economist*, who knows his theory, yet insists in locating economic actors and institutions in their social and historical context.[9]

Nationalism in India first emerged along with democratic aspirations in British India in the nineteenth century among the English-educated new professional middle classes. A feeling of precursive Indian nationalism was sparked in the Rebellion of sepoys of the East India Company and some dispossessed Indian ruling elites and jagirdars/zamindars in 1857 against the British. But it was

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a spontaneous and ill-organized moribund kick of the old feudal order about to be subdued again and slowly but surely to be transformed partly by the takeover of India by the British Crown and more fully by the post-colonial Indian state. It was only a step ahead, towards emerging Indian nationhood, following the rise of the Marathas, Sikhs, Jats, Afghans, etc. against the tottering Mughal state in the eighteenth century that could neither herald the departure from feudalism nor the birth of democratic nationalism. It may also be conceded that what Canadians call First Nations—for their aboriginal tribes—has existed in India right from the earliest recorded history. But nationalism as an ideology is a modern phenomenon in India. It was a product of the emergence of print capitalism in British India. Far from being a discovery, Indian nationalism is an imagined and invented political community by the English-educated new middle classes and the classes of bourgeoisie and politically mobilized peasants and workers. Niharranjan Ray perceptively observes:

> Since India had never experienced what is called a mercantile economy in the Western sense of the term, and since in a colonial situation she was not destined to experience an industrial social economy, she had no other means to evolve a national *bourgeoisie*, again in the western sense of the term, except by bringing into being a professional, city-oriented and English-educated middle class which alone could be the harbinger of the modern ideology of nationalism.[10]

A characterization of nationalism as ethnic/cultural or civic in terms of dichotomous categories would be superficial and erroneous in the Indian context. The phenomenon of nationalism in India is more complex and needs to be understood on its own ground and in its own terms. It lacks the passion of tribal primordialism and ethnic fundamentalism of the nationalism of either religious or linguistic type. It is existentially and discursively rational and to an extent passive, yet very real. There are reasons for these patterns. Hinduism is not a religion in the same sense as

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Christianity, Judaism, and Islam. The term Hindustan, from which India is linguistically derived, etymologically originated from *Sindhu* or Indus. It is a geographical rather than an ethnic term and was originally used by foreigners for the people living around and beyond the river. The territorial name Sindh also originates from the river's name. To say this is not to say that external attribution and internal identification have not produced a Hindu religious identity today. Nor is it to say that there is no attempt at revivalism and fundamentalization of Hindu identity on the part of the Sangh parivar.[11] However, the "oceanic circles" consciousness of Hinduism has been inherently accommodative, and Hindu communalism is, at least in large parts, reactive and it suffers from the complex of "minority syndrome" despite its apparent demographic majority.

Indian nationalism as an ideology is generally supposed to be a product of the nineteenth century India, and Indian parliamentary federation and constitutionalism are products of the twentieth century. To be sure, terms like *rashtra, sabhas, samitis, ganasanghas,* etc. can be traced back to the Vedas and Suttas, the *Ramayana* and the *Mahabharata,* yet it makes social science conceptual and theoretical sense to agree with Lord Meghnad Desai when he observes "I don't believe that democracy is rooted in Indian culture or any culture for that matter. It is a modern phenomenon that we learnt under the foreign rule.... Democracy is not merely formal procedures of parliamentary behaviour and the practice of election. But it has to be that at least before it can be anything else."[12]

The Indian nation was born in democracy, or, more accurately, in desire for participation in British colonial administration that graduated to the desire for democracy and national freedom. The Indian nation was first born in the regions—Bengal, Bombay, and Madras coastal areas in British India—and it gradually enveloped the hinterland that critically and creatively responded to and appropriated—and were appropriated by—what came to be known as Indian nationalism. The nation, to be sure, was not writing on a *tabula rasa.* There was a sense of multiregional and multicultural shared civilizational destiny produced by the sub-continental

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geographical template and *long duree* historical experience. These two conditioning factors had produced sovereignty cults of *chakravarti* kingship, Kautilya's *dharmanyaya* of the state (distinct from various shastric *nyayas*), Ashoka's *dhamma*, Mughal *sulah-i-kul*, Maratha *ajnapatra*, British *paramountcy*, which eventually culminated into the Indian nation-state constructed in the Indian Constitution of 1950.[13]

Even though the contemporary Indian nation-state is a modern phenomenon, its cultural and structural roots go back far into the past and have had a more or less sub-continental spatial spread. Its antecedent composite cultural catalytic formation is suggestively sketched out by the Hindi poet Ramdhari Singh Dinkar as a product of four "cultural revolutions" and acculturative tendencies: (a) Aryan-Dravidian-[Mongoloid] racial aggregations and admixtures and Indo-European/Dravidian/[Tibeto-Burman] linguistic agglomerations and transitions; (b) Vedic or Brahmanical foundational worldview and Jain, Buddhist, Bhakti, Sikh, Sufi and a variety of neo-Hindu reform movements; (c) Hindu-Muslim encounter, coexistence, and osmosis; and (d) Indo-European contact and British colonial conquest of India.[14] The vast panoramic overview of Dinkar's historiography of India's composite culture verges on a kind of Darwinist evolutionism. The idea of India of Dinkar's imagination is reminiscent of the American "melting pot" model of assimilative nationalism. However, the Indian national culture appears to be nearer to the "vertical mosaic" model of Canadian multicultural nationalism. For focusing on the areas of overlap and transitions on the margins, Dinkar glosses over the internal zones of primordial groups that are keen to preserve their distinct identities while they share in the common cultural matrix. In this context, Gurpreet Mahajan suggests a useful distinction between pluralism and multiculturalism: the former is "simultaneous presence of many cultures and communities within the same social space", while the latter" is concerned with the issue of equality", asking "whether the different communities, living peacefully together, coexist as equals in the public arena".[15]

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Like pluralities of communities existing in the same social and geographical space, Indian history is also marked by the simultaneous presence of pluralities of states in the same territorial space through much of the time. But in all periods one among many of the regional states had greater pretension of being a higher species state either in terms of good or great state. Rama's Ayodhya and Yudhistir's Indraprastha in the epics *Ramayana* and *Mahabharata*, Mauryan Magadha in the post-Vedic period, Chandragupta's and Samudragupta's Magadha in the Gupta period, and Harsha's Thaneshwar in the post-Gupta period, Delhi Sultanate, Vijayanagara, and Mughal states in pre-Mughal and Mughal India, and the British Raj in the colonial period.

The role of the ideal state of contemporary India and its assets could, in the words of India's leading scholar administrator, B.P. Singh, be summarily described as follows:

> First, there is the ancient past that we have inherited, both in respect of social forms and structures and the general heritage of arts, sciences, technology and education. The second is our recent past and the emerging pattern of the future wherein we have made enormous progress both in socio-economic and in political fields. And the third is our administration which has provided the necessary infrastructure and is the implementation machinery for bringing about economic growth with social justice.[16]

In modern India, nationalism, (Benedict Andreson's "imagined community")[17] the *nation* and the independent new *state* appeared on the horizon together. There was no lag between the national community and the projected state. Both remained in the making in British India and were born together in 1947. Probably the first Indian nationalist organization, a precursor of the Indian National Congress, the locus classicus of Indian nationalism, was the Indian Association established on 26 July 1876 in Calcutta, earlier mooted as the Bengal Association. Surendranath Banerjea, among the leading founders, later reminisced that the provincial nomenclature was ruled out:

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for the idea that was working in our minds was that the Association was to be the centre of an all–India movement. For even then the concept of a united India, derived from the inspiration of Mazzini, or, at any rate, of bringing all India upon the same platform, had taken firm possession of the minds of Indian leaders in Bengal.[18]

The first proto-nationalist campaign was launched when a great meeting was held on 24 March 1877 in Calcutta which appointed Banerjea a special delegate to visit different provinces of British India to canvass an association and civil service reforms facilitating entry of Indians in administration. The same year and the following Banerjea traveled by the newly constructed railways and other modes of transport through Upper India from Calcutta to Lahore and to Western and Southern India through Bombay to Madras.[19] The Indian proto-nationalist idea and action took firmer structural roots with the founding session of the Indian National Congress chaired by Alan Octavian Hume in December 1885. This nationalist idea graduated through Moderate and Extremist phases and can be said to have acquired mass nationalist-oriented overtones by the time of the Swadeshi movement in Bengal in the first decade of the twentieth century and a fuller articulation of Swaraj in the sense of political liberation from British colonial rule by the second and third decades of the twetieth century coinciding with the Gandhi-Nehru era in the history of the Indian National Congress.

Despite the colonial context of the rise of nationalism in India, I find Partha Chatterjee's argument of it largely, if not entirely, being a "derivative discourse" and lacking in free will a bit Orientalist and parochial. Chatterjee distances himself both from the Andersonian idea of nationalism as a universal phenomenon as well as from any argument of distinctively uniquely Indian flavour to its brand of nationalism, excepting probably some elements in Gandhi.[20] I would take cudgels with Chatterjee both on the assumptions of certain elements of uniqueness of cultures and on the philosophical objection to empirical foreclosure of future possibilities—historical and evolutionary.

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Staying, for the time being, within the four walls of Indian history, I find the nineteenth century conceptualization of the Indian national community a great and grand innovation. In the past, ethnic identities/nationalities existed apart from the state and had only two common foci: the ruler (*Raja*) and the territory (*Janapada/Rashtra*). The rulers often changed and so did the territories in the sense of expanding or shrinking. Indian nationalism would appear to be a relatively new cultural and ideological construct that fused the new national consciousness, territory, and state into one ("We, the people of India, having solemnly resolved to constitute India into a sovereign, socialist, secular, democratic republic....").[21]

It was thus that the Indian nation-state was born in 1947. The birth of this entity was the product of the legal transfer of power from the British Parliament to the Constituent Assembly of India elected in 1946 by provincial legislatures, which were themselves elected in 1936 on the basis of nearly 25 percent of franchise premised on educational and property qualifications under the Government of India Act, 1935.

In typical Western, particularly European, understanding, the nation precedes the state and attains a fuller realization in the state. In modern Indian history, the state preceded the nation, which in some ways is still in the making. That is why any observer who is inclined to make a declaration that Indian nationalism has turned the corner on its unity and integrity must look over one's shoulders in agonizing reappraisal. In a way of saying, it seems to be India's destiny, not only in this area but many other areas, to be perennially on the threshold of arrival: about to reach there, but not quite there.

The blueprint of the foregoing idea of Indian nationalism, which may well be called primarily the civic-territorial one,[22] was forged during the anti-colonial freedom struggle fought on the nationalist platform put together by the Indian National Congress, which, before becoming the ruling party in independent India, was a confluence of a variety of ideological tendencies, factions, and organizations. The only organizations that remained largely irreconcilably outside its pale of influence and aggregation were the

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Muslim League and the Justice Party/Dravida Kazhagam. Despite this relative failure, the Congress always had a large number of Muslim and Tamilian non-Brahman following.

The most fully grown statement of the ideology of the Indian nationhood is, of course, the constitution drafted and adopted, after a nation-wide debate in provincial legislatures, premiers' conferences, press and the intelligentsia, by the Constituent Assembly of India (December 1946–November 1949). The most significant pre-1950 programmatic and ideological charter was the Karachi resolution of the Indian National Congress (1931) that clearly presaged the 1950 constitutional charters of fundamental rights and directive principles of state policy that envision a liberal democratic and welfare state.[23] Similarly, the penultimate pre-Independence blueprint of dominion federalism on the pattern of the White Commonwealth under the British crown was presented in the Motilal Nehru Committee Repot (1928). The federal-provincial division of governmental powers and responsibilities outline in this document bears striking resemblance to the pattern finally settled in the 1950 constitution, going beyond the feeble federal scheme under the Government of India Act, 1935. [24]

Contemporary Dimension

In the context of the relationship between nationalism and constitutional democracy (or constitutionalism, in shorthand) in India—broadly used as a label term for an elected government limited by rule of law and institutional checks and balances and wedded to socio-economic transformation by legislation – the most difficult horn of the dilemma that it has been India's fate to be confronted with relates to the relationship between state and religion. The discussion that follows here is limited to the secular dimension of Indian constitutionalism and its symbiotic relationship with Indian nationalism.

It is important to keep in mind that Indian approach to the problem of relationship between politics and religion appears to be

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unique. That may be the reason why the framers of the constitution avoided using the word "secular". For the state in India is neither *de jure* secular, as the state in the U.S.A. and in France are, nor is it *de facto* secular as the state in the United Kingdom is. After their birth in a war of independence or a revolution, the Americans and the French put a wall of separation between the state and religion. The Anglican Church of England is the state church of the United Kingdom, yet the British state is non-discriminatory to all its subjects for all practical purposes. What has come to be known as secularism (*dharmanirpekshata*) in India is characterized by constitutionally mandated equal respect for all religions on the part of the state (*sarvodharma samabhava*), individual freedom of religion, cultural and educational rights for linguistic and religious minorities, non-taxation for religious purposes. Yet the state is not constitutionally barred from legislating on religious reforms, management of religious shrines and their estates and property. In fact, the directive principles of state policy expect the state in India to strive for a common civil code for all Indians irrespective of religious affiliations.[25]

The threat to secular public policies of the Indian state and minority rights of citizens surfaced in a big way by the 1990s when the Hindu Right Bharatiya Janata Party gradually gathered electoral momentum in the wake of the party's emotive Somanath to Ayodhya *rathayatra* that triggered the so-called Ayodhya Movement agitating for the construction of a Ramamandir in Ayodhya at the site of the Babarimasjid there alleged to have been built by Mir Baqui, a Babar general, after destroying the temple on Ram's supposed birthplace. The mosque was demolished by a frenzied Hindu mob in the presence of some top BJP leaders on 6 December 1992. At the time a BJP government happened to be in power in U.P. and New Delhi was under a Congress minority government headed by P.V. Narasimha Rao. New Delhi dismissed BJP governments in U.P., Madhya Pradesh, Rajasthan, and Himachal Pradesh on the plea that constitutional machinery in U.P. had broken down and BJP governments in the rest of the Hindi belt must also go in the interest of effective implementation

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of the ban on some Hindu (and Muslim) communal organizations clamped in the trail of the demolition of the disputed structure in Ayodhya.

Since then BJP governments have come and gone in several states in northern and western India, including the BJP-led National Democratic alliance government headed by Atal Behari Vajpayee (1998–2004) in New Delhi. Several policies of these governments have been often decried as motivated by "Hinduization" of the Indian state. The secular character of the state, however, has not suffered a complete collapse. This may be explained by the fact that democracy and constitutionalism are no longer a mere top-dressing on the Indian soil; they have taken deep, though not unshakable, roots. It is notable that even the Hindu Right BJP does not formally question secularism as such. Instead, it has attacked what it calls "pseudo-secularism" or "minorityism" of the Congress and some other parties, now mainly from the leftwing. This may presumably be so due to the fact that the party did not come to power on its own anywhere, excepting U.P. earlier and Gujarat later, until before the general elections in the summer of 2004. It is also notable that its stint in government in these two states was marked by the mosque demolition in Ayodhya city in the district of Faizabad in 1992 in the former state and communal blood-bath in Gujarat in 2002 reminiscent of the comprehensive rioting around the time of India's Partition. In the elections immediately held after these catastrophic events, the BJP lost in U.P., including in the city of Ayodhya itself, and won a second back-to-back majority in Gujarat. Ironically, U.P. is economically backward and Gujarat, economically dynamic! Interestingly, the former happens to be the home-state of Nehru, the architect of the Indian state, and Gujarat, the home-state of Gandhi, the father of the Indian nation.

BJP governments in other states and in New Delhi before 2004 have ruled at helms of coalition governments in partnership with some secular and communal parties, both regional and national. Secular partners of these governments have generally acted as restraints on the Hindutva agendas of the BJP. For example, when the National Democratic Alliance agreed to work under BJP's

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leadership in the coalition governments in New Delhi between 1998 and 2004 before being replaced by the Congress-led United Progressive Alliance government, in 2004, the Hindu right party acquiesced in dropping the issues of constructing a Ram temple at the site of the demolished mosque, legislating a common civil code for all Indians irrespective of religious differences, and amending the constitution to drop the special status article relating to the state of Jammu and Kashmir. The agenda of the "Hinduisation" of education by the BJP Union Human Resource Development Minister Murali Manohar Joshi was also sought to be resisted by the non-BJP-ruled states in intergovernmental federal forums. Conversely, non-BJP partners in the NDA ruling in New Delhi sought to dampen, to the extent possible, aggressive Hindutva agendas of BJP state governments by pulling the strings of federal levers of power against the latter. The real threat to civic nationalism and secular state in the country can come only in the event of a complete collapse of civil society in pervasive corruption/criminality/ terrorism/ recurrent rioting and a capture of state power by Hindu and other communal parties in New Delhi and India's major states. By present reckonings, this would appear to be largely unlikely. Not only because the Indian National Congress is back at the helm of parliamentary federal coalitional power with the leftwing of the party system in May 2004 Lok Sabha elections. The Congress and the left rode back to power in the 2004 Lok Sabha polls in a critical and realigning election in which minorities and rural and scheduled caste/tribe voters generally voted against the Hindu Right party and its allies in the NDA.[26] Additionally, the five BJP state governments in saddle in Gujarat, Rajasthan, Madhya Pradesh, Chattisgarh, and Jharkhand at the time of writing (Autumn 2005) not only fought the 2005 general elections on a developmental agenda (*bijli, sadak, pani*) but also appear circumspect in avoiding stirring patently communal issues. The BJP national president, L.K. Advani, during a visit to Pakistan during the summer of 2005 made appreciative allusions to Jinnah's 11 August 1947 speech in the Constituent Assembly of that country conjuring up a rainbow coalition of religious and ethnic minorities (obliquely directed at apprehended

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Punjabi domination in the newly created state) and described him as an essentially a secular leader who apparently used a communal strategy as a tactics to win a separate homeland for Muslims after British withdrawal from India.[27]

It augurs well for the continued existence of India's "Sovereign Socialist Secular Democratic Republic" that opposition to these constitutional values is not condensed enough to precipitate their imminent fall. India's strategic interests and classes and communities have developed vital stakes in the continued governance and management of institutions of the state, market, and civil society against internal breakdowns and external subversive and terrorist threats. India's determined pursuit of political democracy and socio-economic development simultaneously, rather than one at the cost of the other, by and large, has paid off. The international community in the post-Cold War scenario, especially after 9/11 and 7/7, has also become somewhat more conducive to India's Tryst with Destiny as a democratic developmental state and multicultural society, earlier with socialistic pretensions and since 1990s with neo-liberal economic reforms in a more globalizing world.

In addition, in my view, democracy is a necessary, if not sufficient, condition for the survival of Indian nationalism. Additionally, it is also important that the nature of this democracy remains *more* parliamentary and *more* federal than it has mostly been in the past, especially in the 1970s. A collective cabinet system in parliamentary federal framework is functionally more suitable than a presidential federal executive in the American mode here. This is so, I think, both to ward off authoritarian potential of elite and mass political cultures of India and to ensure collegial representation to wide and complex social and regional diversities in legislative and executive organs of the pluralist and federalist Indian political system. Significantly, there was a time when the plea for national integration was made from the Centre and was less effective, at times even counterproductive. Today, in the era of greater pluralization and federalization of Indian politics, especially since 1990s, the banner of national unity and integrity is being carried jointly by national and

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regional parties ruling in states and in federal coalition governments in New Delhi. India, federalizing and regionalizing within and globalizing and regionalizing externally, is adjusting to a brave new world. In the opening decade of the twenty-first century India stands on the threshold of immense possibilities and challenges, a continued Tryst with Destiny of glory and burden which Jawaharlal Nehru invoked at the midnight hour in the Constituent Assembly of India on 15 August 1947. [28]

Nevertheless, one of the ironies of nationalism and democracy in the age of capitalist globalization is that in the inevitable contradictions of the forces of nationalism, regionalism, and globalism, democracy must fight with its back to the wall against ascendant capitalism, and, especially in the context of South-Asia, against globalism. The twin factors of the legacy of the Indo-Pak conflict and the relatively more developed Indian economy being surrounded by more backward economies in the region, coupled with geopolitical global and regional security complications—together account for the fact that South-Asia today is more globalized than regionally integrated in economic and security terms. For these reasons nation-states in South-Asia, at least India, Pakistan, and Sri Lanka, present the spectacle of being "national security states" to come to terms with external as well as internal challenges to their existence. Thus, the impact of globalization in terms of reducing the sovereign pretensions of the nation-states and increasing the importance of provincial and local governments—often dubbed as "glocalization"—is somewhat muted in South-Asia.

Notes

1. On the agglomerative nature of Indian culture, see Iravati Kurve, quoted in Rajni Kothari, *Politics in India*, Boston: Little, Brown & Co., 1970.
2. See Kenneth Katzner, *The Languages of the World* (London & New York: Routledge, 2002, 3rd ed.), especially parts I & III; and Aziz Ahmad, *Studies in Islamic Culture in the Indian Environment* (New Delhi: Oxford University Press, 1999), especially part 2.

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3. See M P Singh, "Indian State: Historical Context and Change" *The Indian Historical Review*, vol. xxi, nos. 1-2, July 1994 & January 1995.
4. See Ramdhari Singh Dinkar, *Sanskriti Ke Char Adhyaya* (Foreword by Jawaharlal Nehru), Patna: Udayachal, 1962, 2nd ed; first published 1956.
5. Rukmini Bhaya Nair remarks that "a linguistic subject [in India] must translate herself into different registers under the aegis of the three language formula—a 'core' self, symbolised by her mother tongue, a 'national' self represented by Hindi or some other link language by English or another 'library' language. It is time that such a representation is ideal and that, in real life, the educational situation is both gravely unjust and terribly complicated. Even so, it would be hard to deny the availability of rich linguistic opportunities for the representation of self in everyday life on this translation is not an arcane academic specialty for her but a 'sociological compulsion'." See her Introduction to her edited work *Translation, Text and Theory: The Paradigm of India* (New Delhi: Sage Publications, 2002), pp. 17–8.
6. Amartya Sen, *The Argumentative Indian: Writings on Indian History, Culture and Identity* (London: Allen Lane/Penguin Group, 2005), p. 356.
7. My comment on Sen's formulation here is indebted to the insight gleaned from Scott Lass and Mike Featherstone, "Recognition and Difference: Politics, Identity, Multiculture" in their edited volume of the same title published by Sage Publications, London, 2002, page 8.
8. Nancy Fraser, "Recognition without Ethics?" in Scott Lass and Mike Featherstone, eds. *Recognition & Difference: Politics, Identity, Multiculture*, London: Sage Publications, 2002: 21–22.
9. Ramachandra Guha, "Reviews: Arguments with Sen: Arguments about India" *Economic and Political Weekly*, vol. XL, no. 41, October 8–14, 2005: 4420.

   A somewhat disembodied-statist sans nationalist-idea of India as contrasted with that of Pakistan, may be sampled in Sunil Khilnani, *The Idea of India* (London). In a similar Nehruvian vein Tarun Tejpal writes: "The idea of India was based not on religion, not on commerce, not on race, not on language. It was set on the plant of a deeply shared culture and history, and built by the brick and mortar of the great ideas of modernity—equality, liberty, justice." Tarun Tejpal, "Pakistan and the Idea of India," *Tehelka: The People's Paper*, Vol. 3, Issue 31, 12 August 2006: 3.
10. Niharranjan Ray, *Nationalism in India*, Aligarh: Aligarh Muslim University, 1973, p. 2.

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11. A common name for a slew of Hindu-oriented political and cultural organizations like the Rashtriya Syamsevak Sangh, Bharatiya Janata Party, and Vishva Hindu Parishad.
12. "The Art of the Essayist," Anuj Kumar in conversation with Lord Meghnad Desai, *The Hindu, Metroplus,* Delhi, 24 September 2005: 1.
13. On *Chakravartin* and Kautilya's *dharmanyaya* of the state, and Ashoka's *dhamma,* see Romila Thapar, *Asoka and the Decline of the Mauryas,* Delhi: Oxford University Press, 1997, new revised edition with Afterword , Bibliography, and Index; on Mughal *sulah-i-kul* see Douglas Strewsand, *The Formation of the Mughal Empire,* Delhi: Oxford University Press, 1989; on Maratha *ajnapatra,* see Andrew Wink, *Land and Sovereignty in India: Agrarian Society and Politics under the Eighteenth Century Maratha Swarajya,* Cambridge University Press in association with Orient Longman; 1956. On the paramountacy of the British Crown, see Barbara Ramusack, The *Indian Princes and their States,* Cambridge : Cambridge University Press, 2004, South Asian edition, 2005.
14. Dinkar, *op. cit.*
15. Gurpreet Mahajan, *The Multicultural Path: Issues of Diversity and Discrimination in Democracy* (New Delhi: Sage Publications, 2002), p. 11.
16. B.P. Singh, *India's Culture: The State, the Arts and Beyond* (New Delhi: Oxford University Press, 2000).
17. Benedict Anderson's theory of the rise of nationalism in Europe is of interest here from the perspective of comparative history: "At bottom, it is likely that the esotericization of Latin, the Reformation, and the haphazard development of administrative vernaculars are significant, in the present context, primarily in a negative sense—in their contributions to the dethronement of Latin .... What in a positive sense, made the new communities imaginable was a half-fortuitous, but explosive, interaction between a system of production and productive relation (capitalism), a technology of communications (print), and the fatality of human linguistic diversity". See his *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London & New York: Verso, 1991, rev. ed.), pp. 42–43.
18. Surendranath Banerjea, *A Nation in Making: Being the Reminiscences of Fifty Years of Public Life,* Bombay: Oxford University Press, 1925, Reset and reprinted in 1963: 38.
19. *Ibid.*:chap. 5, pp. 37–51.
20. Partha Chatterjee, *Nationalist Thought and the Colonial World: a Derivative Discourse?* London: Zed Books Ltd. For the United Nations University, 1986. The question mark in the title of the foregoing book dissolves in

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his *The Nation and its Fragments: Colonial and Postcolonials Histories*, Delhi: Oxford University Press, 1995, see especially at page 5.

21. Preamble to the Constitution of India.
22. On "ethnic" and "civic" nationalisms, see Anthony D. Smith, *Nationalism: Theory, Ideology, History* (Cambridge, U.K.: Polity Press, 2001), pp. 39–42.
23. See *Human Rights: A Source Book*, edited by Arjun Dev, Indira Dev, and Supta Das (New Delhi: National Council of Education Research & Training, 1996): 16–18.
24. All Parties Conference, Bombay, 1928, President Dr. M.A. Ansari, published by General Secretary, All India Congress Committee, Allahabad, 1928. Signed by the Chairman Shri Motilal Nehru, Allahabad, 10 August, 1928.
25. A common criminal code was already first codified by the British Indian state in the mid- nineteenth century.
26. M.P. Singh and Rekha Saxena, "Lok Sabha Elections 2004: Change with Continuity", *Think India Quarterly*, vol. 8, no. 1, January–March 2005: 52–79.
27. "We should begin to work in that spirit and in course of time all these angularities of the majority community—the Hindu Community and the Muslim Community—because even as regards Muslims, you have Pathans, Punjabies, Shias, Sunnis and so on, among the Hindus you have Brahmins, Vishavanites, Khatris, also Bengalis, Madrasis and so on will vanish...you are free, you are free to go to your temples. You are free to go to your mosques or any other place of worship in this State of Pakistan. You may belong to any religion or caste or creed-that has nothing to do with the business of the State." Quoted from Kalim Bahadur's chapter in Pandav Nayak (ed.) *Pakistan: Society and Politics* (New Delhi: South Asian Publishers) 1984, p. 32.
28. Honourable Pandit Jawaharlal Nehru (U.P.: General Seat) speaking on the Motion regarding pledge by members at the midnight hour on 14 August 1947. *Constituent Assembly Debates*, Book No. 1 (New Delhi: Lok Sabha Secretariat, 1999, 3rd reprint), pp. 3–5.

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Pushpa Tiwari

History of Agriculture as Reflected in the Art of India

Introduction

The history of agriculture constitutes the most important chapter in the history of human civilization in general and that of Indian civilization in particular, insofar, as India is considered to be one of the original zones where agriculture of rice and other related crops was first experimented, developed and refined.[1] Before proceeding to the analysis of history of agriculture as reflected in the art of India, it is imperative to define the meaning of agriculture and art. As the objective of this paper is to scrutinize art-evidences pertaining to agriculture, it becomes necessary to first, deal with the meaning of art-evidences.

Art is a knowledge by which *things* are created, i.e. art remains in the mind of the artist in the form of intellect, skill and expertise. Things created by this skill are called *artifacts*. Therefore, art historians' domain of study relates to the study of artifacts. The philosophy of art deals with the epistemology of art. Generally, material content discovered in the archaeological excavations and explorations are described as *artifacts*. In this sense, tools, equipments, structural evidences, goods used in everyday life—all are treated as artifacts. This practice and usage of the term *artifacts* by the archaeologists broadens the scope of this paper. Everything

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created by human intellect and skill involves the play of artifice. Hence, manmade things are *artificial* in contrast to natural objects. Artificer is a technical term used for artists/artisans. Thus, I will also focus on the *artifacts* in the sense this term is used by the archaeologists besides examining well defined art-evidences vis-à-vis history of agriculture.

Meaning of Agriculture

The definition and meaning of agriculture also requires attention to remain focused on the desired objective of this paper. We can approach it from two points of view: firstly, what the current usage of the term *agriculture* means and secondly, what is the traditional Indian world view on the subject. As per the meaning given in *New Webster's Dictionary*[2], the term agriculture and its related derivatives have come to English language via Old French, Latin and Greek. In Latin, roots *ager* meaning field and *culture* meaning cultivation from the Latin equivalent *agriculture.* Agriculture is direct English adoption of the Latin term, meaning the cultivation of ground/ land; the raising of crops and feeding of cattle or other livestock; husbandry; tillage; farming; agronomy. Agronomy is derived from Greek roots *'agros'*, i.e. field and *'nomos'*, i.e. law. It means agriculture, management of farms, science of crop production[3]. Likewise, *'Agro-techny'* is another related term which has come to the English language via Greek *'agros'* (field) and 'techne' (art/skill). It means the branch of agricultural science that deals with the conversion of raw farm products into manufactured commodities, as in dairying, canning, etc. Horticulture and husbandry are two cognate terms meaning the science and art of cultivating flowers, herbs, shrubs, fruits, garden vegetables and agricultural cultivation, production of crops, the breeding of animals for food, household management of agricultural products, respectively[4]. *The New Encyclopaedia Britannica*[5] defines the technology of agriculture as the application of techniques to control the growth and harvesting of

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animal and vegetable products. It lists following areas of specialized agricultural knowledge:

1. Horticulture (ornamental vegetation)
2. Irrigation and drainage
3. Pest control
4. Weed control
5. Livestock and poultry farming
6. Animal breeding
7. Plant breeding
8. Tobacco production
9. Natural Fibres
10. Vegetable and vegetable farming
11. Fruits and fruit farming
12. Cereals and other starch products, etc.

Agriculture and Horticulture

It will also be useful to take note of the legal definitions of the terms, 'agriculture and horticulture', as they reflect the codified and widely accepted meanings of these terms as prevalent in day-to-day practice of socio-legal and economic dimensions of agriculture. The U.S. Department of Labor, in its code of Federal Regulations Pertaining to USA, gives the general meaning of 'agriculture or horticultural commodities' as follows: "Section 3(f) of the Act defines "agriculture" as the "production, cultivation, growing, and harvesting" of "agricultural or horticultural commodities". In general, within the meaning of the Act, *"Agricultural or horticultural commodities"* refer to commodities resulting from the application of agricultural or horticultural techniques. Insofar as the term refers to products of the soil, it means commodities that are planted and cultivated by man. Among such commodities are: grains, forage crops, fruits, vegetables, nuts, sugar crops, fibre crops, tobacco and nursery products. Thus, employees engaged in growing wheat, corn, hay, onions, carrots, sugarcane, seed or any other agricultural

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or horticultural commodity are engaged in *agriculture.* In addition to such products of the soil, the term also includes domesticated animals and some of their products such as milk, wool, eggs and honey.[6]

It will be of great help to compare this definition with Indian legal system:

> 'Agriculture' and 'Agricultural purpose' include making land fit for cultivation, cultivation of land, improvement of land [including development of sources of irrigation], raising and harvesting of crops, horticulture, forestry, cattle breeding, animal husbandry, dairy farming, piggery, poultry farming, seed farming, pisciculture, apiculture, sericulture, and such other activities, as are generally carried on by persons engaged in any of the aforementioned activities, including marketing of agricultural products, their storage and transport and the acquisition of implements and machinery in connection with any such activity.[7]

A perusal of important court judgements of different states in India makes it clear that agriculture, in law, means the art or science of cultivating the ground and raising or harvesting crops and 'an agriculturist is a person who actively takes part in the process of cultivation either by tilling or actually directing and supervising on the spot the process of agriculture.'[8]

The Indian legal system makes it clear that 'any operation on land to make it yield fruits or crops may be called agriculture. Application of human skill is a must. Spontaneous growth like grass, forest, trees, is not an agriculture.'[9]

Thus, a comparative legal definition of agriculture makes it clear that the art or science of cultivation and related activities can be safely called agriculture which is distinguished from natural growth by the application of human skill and management.

The above legal definition gives much leeway to broaden the scope of agricultural history as reflected in Indian art. Philosophy of language and historiographic debates nowadays are much

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concerned with the problem of locating *meaning* of the *'text'* in the synchronic/diachronic framework of history writing. If language is the medium of human understanding, then one has to take into account the structural and post-structural debates in understanding language, consciousness and meaning. Language is an artificial construct situated in the collective cultural consciousness from where it constructs and deconstructs meaning. Collective cultural consciousness is not a fixed commodity having all time acceptable concrete shape and form. It is always in a flux, changing in response to the needs of society/community along the trajectory of timeline. The term 'agricultural history' is the reference point from which we have to proceed to art-evidence. But the question is: is there any fixed meaning of agriculture? There can be three alternatives to the answer of this question. Firstly, we have to accept the contemporary meaning of the term both for understanding contemporary and/ or past agricultural history. Secondly, we can borrow the universal principles of language and construct universal meaning of the term agriculture and superimpose it on the past while writing agricultural history of that time. Thirdly, we can adopt a comparative model by contrasting the modern meaning of agriculture with the traditional meaning as contained in ancient texts and linguistic evidences. All the three alternatives have their advantages and disadvantages. They can be well taken care of if we take ourselves as the reference point, i.e. always keeping in mind that we are approaching the past equipped with present biases/prejudices and linguistic capabilities; hence, any historical endeavor will require a cautious and sensitive approach to avoid generalities and over simplification of the given text and context. Here, this question acquires more relevance as we are proposing to construct agricultural history through the lens of art. In the portrayal of myriad narratives/motifs/symbols, we have to isolate and identify those evidences which directly or indirectly tell us about agricultural activities. This presupposes the knowledge of agricultural definitions and meanings prevalent in the past, which in itself is a difficult task. To cull out agricultural activities depictions in Indian art, a broad spectrum definition of agriculture will be

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taken into account which is compatible both with modern and ancient meanings of the term.

Agriculture in Ancient India

An overview of the technical terms for agriculture, as contained in ancient textual tradition, requires an independent analysis. Here it would suffice to say that Ṛgvedic terms *Ara* (अर) and *Kriṣ* (कृष्) connote two different techniques of agriculture: hoeing and ploughing, respectively. Husbandry and related activities are described as an essential part of agriculture. Kautilya[10] in his Arthaśāstra states: आन्वीक्षकी त्रायी वार्ता दण्डनीतिश्चेति विद्या i.e. Ānvīksakī (knowledge of Sānkhya, Yoga and Lokāyata), Trayi (Study of *Rk, Yajur, Sāmavedas*), Vārtā and Dandanītī are included in Vidyā, i.e. domains of specialized knowledge. Kautilya[11] further explains Vārtā as 'कृषिपाशुपाल्ये वाणिज्या च वार्ता' (1.3.1) i.e. agriculture; husbandry and commerce are specific domains of *vārtā*. Knowledge of *vārtā* is said to bestow prosperity in the form of agricultural produce (धान्य), animals (पशु), gold', copper, etc. (हिरण्यकुप्य) and manpower to be used as servants/labourers[12] (विष्टि) (1.3.1). Surprisingly, this definition is not far from that used in modern Labour Laws of India and other countries where, agricultural/horticultural commodities, domesticated animals, employees engaged therein, seeds, wild commodities, agricultural marketing, etc., are described under the broad definition of agriculture. The fifth-sixth century AD Sanskrit lexicon *Amarkośa*[13] has classified agriculture, cattle rearing, dairy products, food processing, conservation and preservation related trade and commerce activities under *Vaiśyavarga* (2.9.1–111). It seems in agreement with *Arthaśāstra* in its definition of *Vārtā* as 'कृषिः पाशुपाल्यं वाणिज्यं चेतिवृत्तयः' (agriculture, cattle rearing and commerce are livelihood or profession, i.e. Vārtā/vritti) (2.9.1–2).[14] The *Brihat Samhitā* is a veritable storehouse of information pertaining to astrology and its impact on the important aspects of society and human life. Its chapters, titled Sasyajātakādhyāya[15] (सस्यजातकाध्यायः), Dravyaniśchayādhyāya[16] (द्रव्यनिश्चयाध्यायः), and Arghakāndādhyāya[17]

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(सस्यजातकाध्यायः), are devoted to agriculture, horticulture and their produce, cattles and trade and commerce of agricultural and horticultural products along with precious and semi-precious stones while describing the impact of different planets and stars in different constellations. Point to be noted is that herein also, agricultural activities are intimately associated with horticulture, husbandry and commerce (*Brihat Samhitā*, chapters 40, 41, 42).

We can sum up that agriculture does not mean only crop harvesting of different cereals. Horticulture, fruits, vegetables, herbs, cattle rearing, dairy products and management of grains, fruits and dairy products all come within the purview of agricultural activities. This conclusion will help to isolate agricultural activities as portrayed in Indian art.

Agriculture in Indian Art

Indian art has two levels of reference: spiritual/symbolic and material/mundane sphere. They are not mutually exclusive in the Indian world view. Dichotomy of sacred and profane or spiritual and sensual are modern notions. Bulk of the art-evidences are religious in nature, but their subject-matter reflects both spiritual and material spheres. It is upto the onlooker how he/she approaches to interpret it. Therefore, it is not surprising that one can find mundane activities depicted in religious art. Depiction of agricultural activities are no exception.

We can divide Indian art-evidences depicting the agricultural scenes in two broad groups: (i) Direct depictions where agricultural scenes such as ploughing, husking, chaffing and winnowing, etc., are depicted. (ii) Indirect depictions such as cooking, eating scenes, picnicing, orchards, groves, drinking, eating vessels, cattle, fireplaces, hearths, etc., which throw significant light on the existence of agriculture.

Chronologically, we can divide art-evidences into following groups: (1) Prehistoric/Protohistoric evidences which include pottery sherds, stone tools specific to agricultural activities, hearths,

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cattle bone, pottery paintings, engravings, relief sculpture such as seals/sealings, etc., and sculptural evidences; (2) Historic evidences which can be divided into (A) pre-Mauryan, (B) Mauryan-Sunga, (C) Kushana-Gupta, and (D) Early medieval. Historic art-evidences are both sculptural and architectural in nature. It is important to note that stupa art and cave paintings are more important insofar as they retain a narrative art style which has more scope for depicting agricultural activities, whereas Gupta and post-Gupta/Early medieval art is more of an iconographic nature which does not leave much scope for narratives and detailed scenes of mundane life. But there are symbols, motifs and attributes which indirectly throw significant light on agricultural history.

Earliest forms of agriculture: art/archaeology

As has been stated earlier, agriculture does not mean only crop harvesting, but also includes horticulture and cattle breeding. Therefore, generally speaking, the beginning of agriculture in its primitive archaic form belongs to that phase of human history described in archaeology as the Mesolithic period. Hunting, gathering, foraging were the basis of subsistence. Domestication of animals along with hutments, collection of wild seeds of grains, handmade pottery with cord-impression, geometric designs and most importantly creation of rock paintings depicting agricultural activities—all these are intimately associated with the Mesolithic period. Evidence of microliths used to construct sickles and other tools used in crop harvesting throw significant light on the existence of agricultural activities[18]. Bagor (Rajasthan), Adamgarh (Hoshangabad), Chopanimando (Allahabad, U.P.), Damdama (Pratpagarh, U.P.), are some important excavated sites of Mesolithic cultures which throw significant light on the settlement pattern, hunting-foraging economy, domestication of animals, gathering of wild seeds of wheat, barley, etc., processing of wild seeds through quern-muller and floors of huts, indicating a settled life. Remains of domesticated animals like cow, bull, etc., along with

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quern-muller and storage pits and sherds of handmade pottery—all indicate the foreplay of the beginning of agriculture and settled life in the Mesolithic period.[19] Mesolithic rock-paintings also reflect the hunting-foraging-gathering way of life. Scenes of agricultural activities are not depicted in Mesolithic age paintings. But some evidences of gathering wild grains and their processing are portrayed in Mesolithic art (Fig. 1). These art evidences provide a glimpse of Mesolithic hunter-gatherers in a stage where they have domesticated cattle, sheep and goat, and acquired the knowledge to process plant food, including wild seeds.

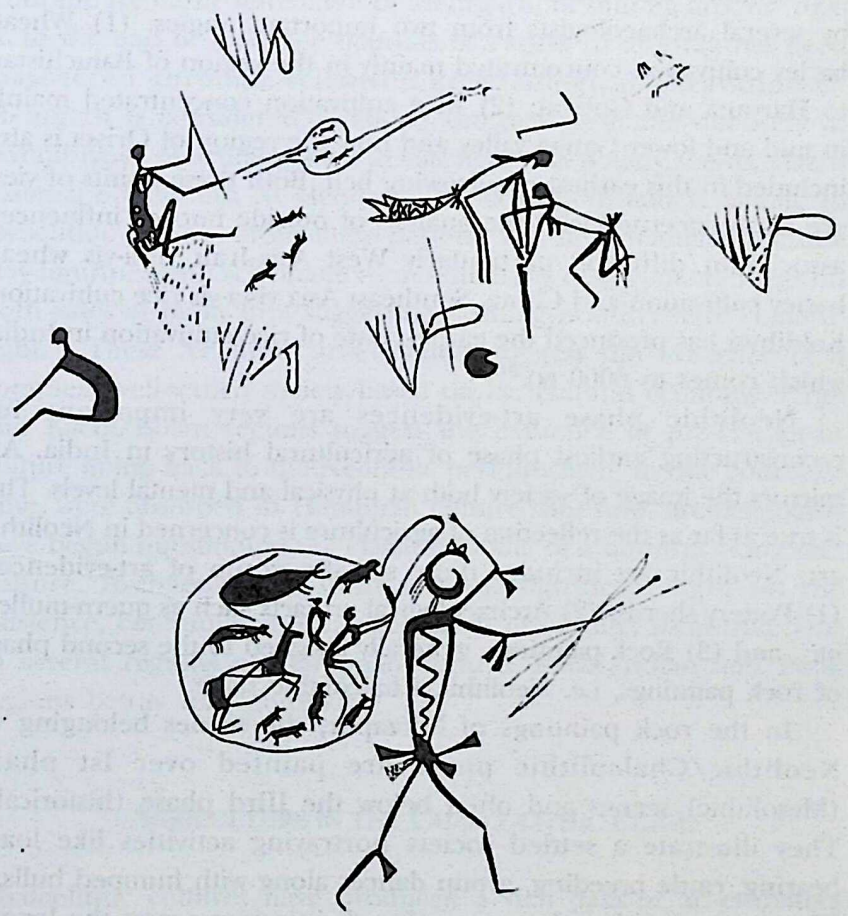

Fig. 1: Mesolithic Rock Paintings

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Agriculture in the Neolithic Phase

Neolithic phase constitutes the real beginning of agriculture in the true sense of the term. The earliest evidence of agricultural life based on wheat, barley, cattle, sheep and goat in the Indian subcontinent comes from Mehrgarh in Baluchistan dating approximately 7000 BC. In fact, Neolithic cultures coincide with the growth of well-planned villages, cultivation of both wheat, barley and rice along with other artifacts of great importance such as painted wheel-made pottery sherds.

Neolithic agriculture is nowadays being analyzed and debated by several archaeologists from two important angles: (1) Wheat, barley cultivation concentrated mainly in the region of Baluchistan to Haryana and Gujarat; (2) Rice cultivation concentrated mainly in mid and lower Ganga valley and now the region of Orissa is also included in this earliest rice-growing belt. Both these points of view are also concerned with the analysis of outside impact/influence/association/diffusion particularly West Asia-Iran vis-à-vis wheat, barley cultivation and China, Southeast Asia vis-a-vis rice cultivation. Koldihwa has produced the earliest date of rice cultivation in India, which comes to 6000 BC.[20]

Neolithic phase art-evidences are very important for reconstructing earliest phase of agricultural history in India. Art mirrors the image of society both at physical and mental levels. This is true as far as the reflection of agriculture is concerned in Neolithic art. Neolithic art includes these specific group of art-evidences: (1) Pottery sherds, (2) Archaeological artifacts such as quern-muller, etc., and (3) Rock paintings, generally assigned to the second phase of rock paintings, i.e. Neolithic/Chalcolithic stage.

In the rock paintings of Mirzapur, the scenes belonging to Neolithic/Chalcolithic phase are painted over Ist phase (Mesolithic) scenes and often below the IIIrd phase (historical). They illustrate a settled society portraying activities like load-bearing, cattle breeding, group dances along with humped bulls.[21] There are several such groups of rock paintings across the length and breadth of India, particularly in the Vindhyan ranges of central

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India where one can find the glimpses of early stage of settled life and related activities. Unfortunately, it is very difficult to fix the chronological sequence of these rock paintings, as different layers are superimposed over each other. The broad division of these paintings into Mesolithic, Neolithic/Chalcolithic and Historic phases is not satisfactory. Particularly, the transitory phases sandwiched between mesolithic and chalcolithic layers desire much attention and careful perusal to isolate Neolithic from those of Chalcolithic paintings.

Continuous sequence of occupation in the Kachi/Bolan region from the Neolithic settlement of Mehrgarh, beginning around 7000 BC to the end of Iron Age deposits of Period III at Pirak has been discovered through scientific archaeological excavations[22]. Mehrgarh is considered as an art centre due to the discovery of several types of artifacts such as clay figurines, pottery sherds, glazed material objects, etc. At Mehrgarh, Periods IA, IB and II belong to Mesolithic culture. From these periods, steatite ornaments[23], crude clay figurines with schematic representations of a trunk and legs on both sides of bulky hips suggesting a sitting position have come to light.[24] These Neolithic art-evidences suggest the existence of a complex, well-settled society based on agricultural economy. Pirak and Kachi/Bolan regions suggest the existence of pre-Harappan culture going back to the Neolithic period which, in due course of time, were absorbed in Harappan culture. But now, archaeologists have begun questioning the classical model of a uniform Harappan culture. Archaeological studies throw significant light on the existence, continuity and incorporation of original local traditions in several regions of Harappan culture. Kachi/Bolan and Pirak regions betray this tendency.[25]

Agriculture in the Chalcolithic Phase

Chalcolithic cultures have produced a rich data of art-evidences relating to agricultural history. Mostly, they constitute pottery sherds and architectural remains shedding light on the complex structure

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of social organisation including urban way of life. The Chalcolithic horizon of India is very vast. Now, most archaeologists are in favour of dividing the Chalcolithic horizon in 3 distinct phases: (1) Pre-Harappan, (2) Harappan, and (3) cultures beyond the Harappan distribution zone. Among them, the most important phase from the point of view of history of agriculture is the pre-Harappan phase concentrated in the northwestern part of the Indian subcontinent from Baluchistan to Haryana and Gujarat. This phase reveals the growth of villages and subsistence economy based on agriculture and related local and regional trade of raw material. The excavated sites have yielded large pottery sherds reflecting the distinctive regional styles. These pottery sherds throw significant light on the early history of agriculture. They help us in two ways—firstly, their shapes and size speak volumes about agricultural activities and secondly, they help us in reconstructing the agricultural history through the content of paintings on their outer surface. In the regions of Baluchistan and Sindh (Pakistan) and in Rajasthan, Haryana, Gujarat (India), several sites have been systematically excavated, throwing significant light on Pre-Harappan cultures. The following cultural zones have been proposed on the basis of archaeological findings:

1. Amri-Nal Culture
2. Quetta Culture
3. Kulli Culture
4. Zhob Culture
5. Kot Diji/Sothi Cultures
6. Banawali and other sites in Punjab/Haryana

These cultures evolved out of agricultural practices and developed into a complex pattern of settled life, culminating in the growth of villages. A wide range of pottery has come to light. Prominent forms are: storage jars, perforated cylindrical jars, beakers, bowls, shallow dishes, dish on stand, cups, pedestalled cups, plates, jugs, etc.[26] These vessels in themselves are important evidences of agricultural and other related activities such as storing, processing,

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cooking, and preserving various raw material availed through agriculture/horticulture. As artifacts, they speak volumes about the culinary art and aesthetics of their times. Cereals, grains, vegetables, fruits, herbs and other vegetal raw material were handled and processed with considerable skill and knowledge to create a wide variety of foods and drinks (beverages, dairy products) which required vessels of various shapes and sizes—a fact also corroborated by archaeological excavations.

More relevant from the point of the theme of this paper is the painted subject matter of pre-Harappan pottery. Almost all the sites of pre-Harappan cultures have yielded a painted ware tradition with strong regional variations and styles. Two distinctive traditions are discernible from the analysis: (1) Buff ware having paintings in black colour; and (2) Red ware with black coloured paintings. Buff tradition has many shades and nuances such as pinkish white and yellowish white. A critical analysis of these evidences throws considerable light on the contemporary practice of agriculture and related activities. We were able to cull out the following facts relating to agriculture from the art of pottery painting of the pre-Harappan horizon:

1. Amri-Nal ceramics contain some motifs which display loops and suspended lines suggesting tassels. Its variant is seen in the ceramic tradition of Harappan culture and that belonging to West Asian Chalcolithic horizon particularly from Samarra and Tell Halaf[27] (Fig. 2).

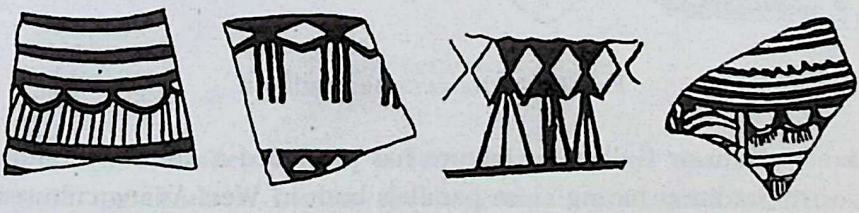

Fig. 2: Pre Harappan Pottery

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2. Quetta ceramic tradition displays many motifs whose parallels can be found both in West Asia and Harappan cultures. They are simple in form and suggest a highly stylized and abstract nature of representation relating to mundane life and objective reality. For example, the so-called opposed triangle motif is suggestive of both a geometric pattern or an abstract notion of some objectified reality, and also of stylized form of an animal or axe. Either way, it shows a relationship with agricultural way of life. Ethno-archaeology and anthropological studies show the prevalence of these motifs in agricultural communities across time and space. Opposed triangles could also suggest conical baskets or other such objects used in agricultural activities. Quetta ware also displays tree motif in a highly stylized manner. These tree motifs reveal close association of trees with agriculture as they provide wood both for fuel and equipments/huts/houses. It is a fact to be noted that tree worship is a common feature in agricultural societies across the world. Hence, the depiction of trees could also be taken as reflecting the agricultural/horticultural way of life[28] (Fig. 3).

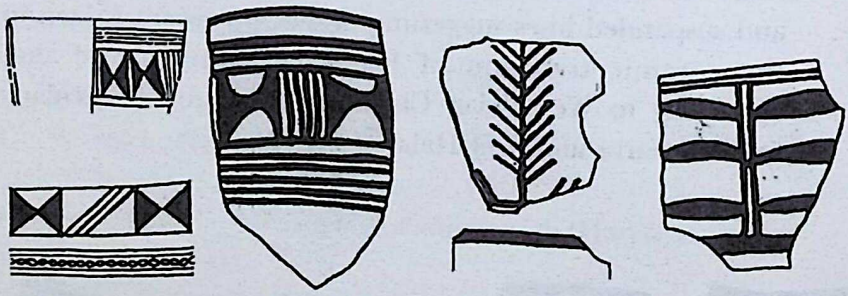

Fig. 3: Quetta ceramic tradition

3. Kulli or Kulli-Mehi culture has produced a distinct ceramic tradition having close parallels both in West Asiatic cultures and the Harappan culture. The pottery is typically buff or pinkish and designs are painted generally in black with

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occasional pale red or whitish slip also used. Instead of simple geometric and stylized forms, the Kulli ceramic tradition displays stereotype naturalistic scenes having a narrative quality. They consist of elongated humped cattle (probably a cow and a bull) depicted in a setting of stylized trees and minute stylized horned animals looking like goats. Various other symbols such as triangles, circles, W-and S-shaped designs, dotted eyelike forms, etc., produce a sense of overcrowding in the background. The whole composition is narrative in character, suggestive of religio-magical beliefs and practices of the agricultural society of Kulli. The elongated horned cattle, stylized forms of goats, pipal tree, stand like 'cult object', comb like symbol—all betray parallels of Harappan pottery. Importance of cattle in agricultural society does not need any elaboration. The bull and cow are worshipped for their magical powers. Kulli was in close contact with Mesopotamia. A pot found at Susa depicts an almost similar scene with slightly different mannerism which suggests the local adaptation of Kulli ware designs probably by the artists from the Kulli itself[29] (Fig. 4).

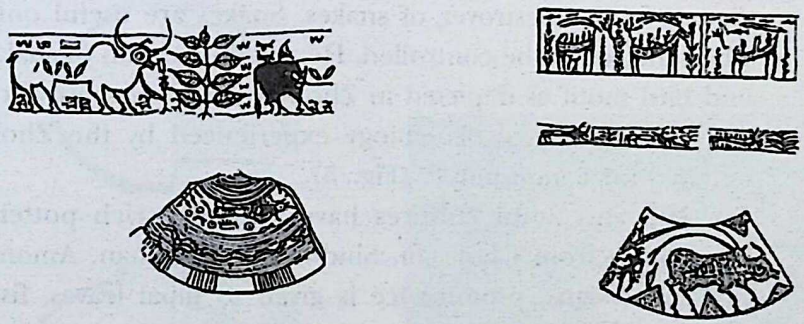

Fig. 4: Kulli ceramic tradition

4. Zhob valley culture is famous for its red ware tradition, particularly for its more distinctive ceramic tradition described as 'bull' pottery by Ross and as Sur Jangal painted variant 2 by Fairservise at Rana Ghundai and Sur Jangal,

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respectively.[30] Important motifs are highly stylized abstraction like animal frieze, loop with suspended lines, angularised shapes resembling abstraction of human form, parallel lines, lozenges, etc. These motifs have survived in the living tradition of contemporary folk art of various regions of the Indian subcontinent. These motifs are so stylized and lend themselves to abstraction that one may not find any direct correlation with agricultural activities or culture. But the suspended loops, lines and lozenges are such motifs which could easily symbolize the multitude usages of crops—husks, corn, dried plants seeds, etc., which are still used for various religious and decorative purposes in folk art. Some pottery also display the symbol of snake and bird, signifying mythological meaning. These motifs are also correlated with the cult of the mother goddess. Snake worship is a common feature in agricultural societies. Snakes protect crops by destroying rodents and mice. They also symbolise water and longevity of life. Birds are also important as they eat insects which are injurious to crops. The later version of Indian mythology pertaining to *Garuda* (Eagle) and snake portrays *Garuda* as the destroyer of snakes. Snakes are useful only when they could be controlled. Hence, this version of snake and bird motif as depicted in Zhob pottery is suggestive of the fragile balance of ecology experienced by the Zhob agricultural community[31] (Fig. 5).

5. Kot Diji and Sothi cultures have yielded a rich pottery assemblage from Cholistan, Sindh, and Rajasthan. Among painted designs, prominence is given to pipal leaves, fish scales and to the unique horned deity like animal with floral pattern[32] (Fig. 6). Scholars have identified two structural phases of Kot Diji/Sothi cultures at Kalibangan. Parts of a cultivated field have been excavated near the site. It has north-south furrow marks spaced at 1.9 m and the east-west marks at 30 cm (Fig. 7).[33] This evidence is very important for the history of agriculture as well as for the relevance of

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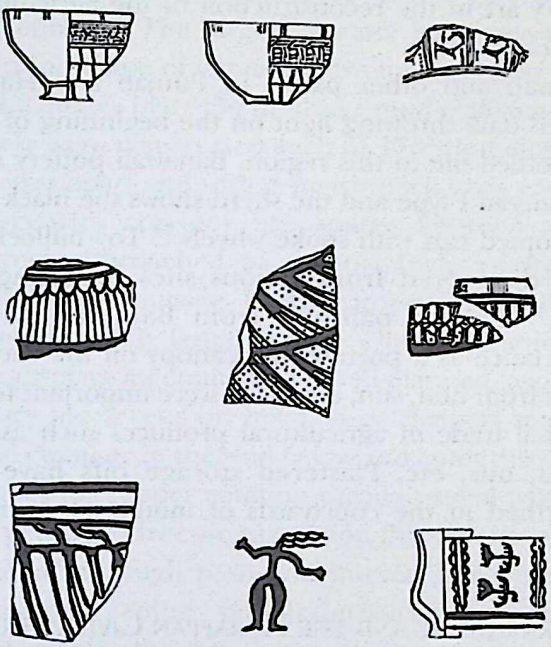

Fig. 5: Zhob ceramic tradition

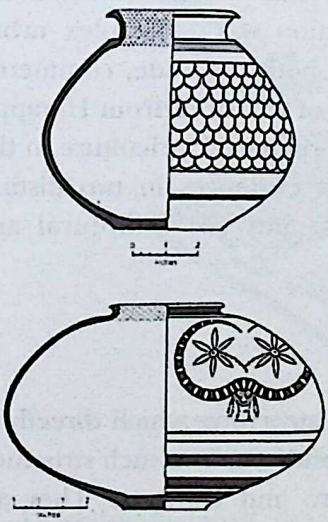

Fig. 6: Sothi/Kot Diji ceramic tradition

Fig. 7: Kalibangan (KLB2) Furrow marks of ploughed land

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pottery art in the reconstruction of the agricultural history of ancient India.

6. Banawali and other places in Punjab and Haryana have yielded data throwing light on the beginning of agriculture and settled life in this region. Banawali pottery is similar to Kalibangan I type and the sherd shows the black painting of a canopied cart with spoke wheels.[34] Toy bullock carts have been discovered from various sites including Mohenjo-daro.[35] Pottery painting from Banawali is of greater importance as it portrays the canopy on the cart to protect goods from rain, sun, etc. Carts were important for local and regional trade of agricultural produces such as vegetables, grains, oils, etc. Plastered storage pits have also been unearthed in the courtyards of mud-brick houses.

Agriculture and the Harappan Civilization

The most important agriculture-related art evidences come from the horizon of Harappan civilization [Indus/Indus-Sarasvati are other names given to it]. This civilization was a complex urban civilization, but its economy was based both on trade, commerce, industry and agriculture. The discovery of granaries from Harappa, Mohenjo-daro, etc., reflects on the importance of agriculture in this urban civilization. We could divide art evidences in two distinct categories: (A) architectural remains, and (B) sculptural and pottery paintings.

(A) Architectural Evidences

In this category, we shall describe those structures which directly or indirectly tell us about the history of agriculture. Two such structures have come to light from Mahenjo-daro and Harappa. They are described as granaries, i.e. huge storehouses or godowns where grains were stored for their use both in trade and monetary system. A warehouse-like structure has also been unearthed at Lothal.

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Existence of these granaries suggests the large-scale systematic agricultural industry. The largest granary has been discovered at Harappa[36] in the shape of a mud platfrom which is 52 by 42 metres in size and 1.2 metres high. On this huge mud platfrom two identical granary blocks were constructed each of 17 by 6 metres dimension, placed 7 metres apart and with 3 metre thick walls each block had six chambers with corridor like spaces between them. These chambers were approached by a short flight of steps and had opening only on the outside. Each chamber was divided into four storage spaces by full length walls. The eco-friendly scientific architecture displays ingenuity and a well-planned layout. The floor of the granary block rests on huge, large sleepers spaced apart so that air could circulate in the void below and enter the storage spaces of the chamber for proper aeration through small triangular vents. This design permitted free air circulation through the grain to avoid their destruction through pests and insects. The sheer size of the granary suggests some politico-economic mechanism of management, as also the fact that agriculture occupied a place of central importance in the economy of Harappan civilization (Fig. 8).

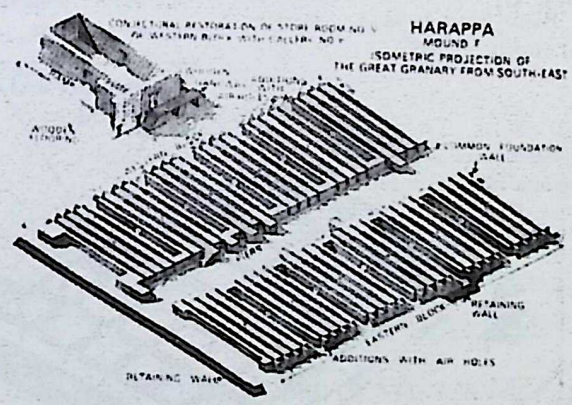

Fig. 8: Isometric Projections of the Great Granary, Harappa.
(Courtesy: Archaeological Survey of India)

At Mohenjo-daro[37] the granary was constructed on a massive brick platform with steep sloping walls. On this platform bases of 27 mud-brick storage blocks arranged crosswise to facilitate

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air-circulation were found in the excavation. Built integrally with it in the north was a loading platform made of burnt bricks. It is believed that these storage blocks have had wooden superstructures filled with grain. The high-level granary was constructed to protect it from floods and other natural and man-made calamities. The construction of passages between the storage blocks is important from the point of aeration or free air circulation.[38]

At Lothal[39], a structure resembling a warehouse has come to light. It faces the dock to facilitate the passage of goods, particularly grains. The warehouse stands on a mud-brick podium which is 49 metres by 41 metres long and wide respectively and 4.1 meter high. This podium has an outer platform also. There are 12 solid blocks of mud brick on the podium separated by 1 metre wide criss-cross passage for free air circulation. These mud-brick blocks are 3.65 metre square and 0.91 metre high, and covered with wooden superstructures which were probably destroyed in the fire. Sixty-five terrocotta sealings with impressions of reed, woven fibre, matting and even twisted cords have been found in this complex, which suggests that 'packages of goods were examined and stored' in this complex (Fig. 9).

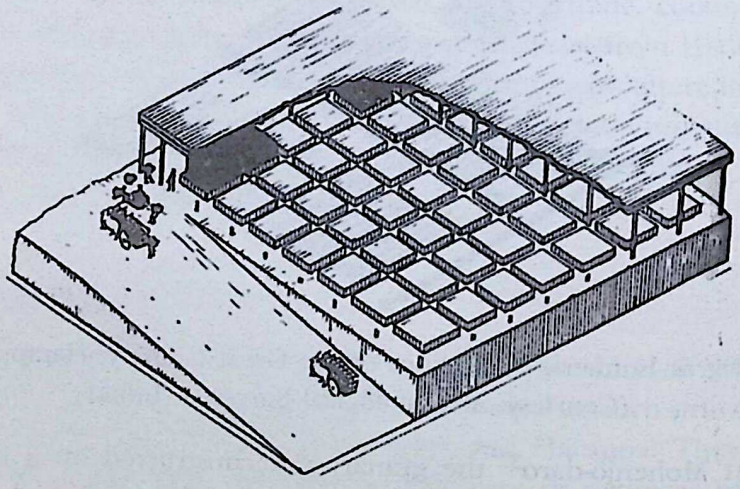

Fig. 9: Lothal warehouse

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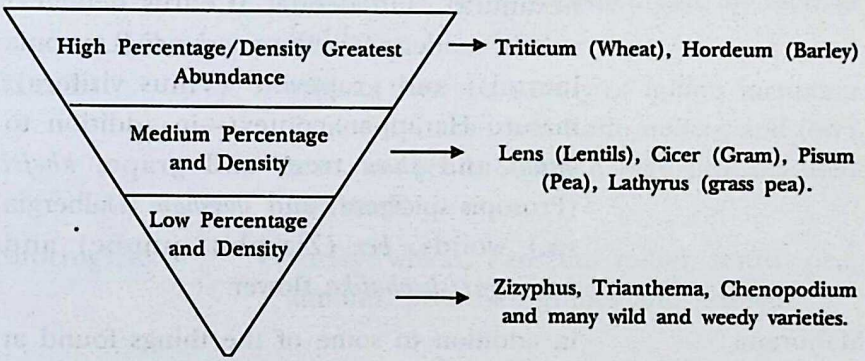
Thus, the art of architecture, as revealed in the excavations of Mohenjo-daro, Harappa and Lothal, throws significant light on the history of agriculture relating to Indus-Hakra or Sindhu-Sarasvati culture of ancient India. Recently, Steven A. Weber[40] has analyzed the archaeobotanical data collected in the recent excavations (1993) through systematic flotation system to explain the Harappan subsistence pattern. Archaeobotanical data included pollen, seeds, charcoal, plant impressions and phytoliths. The samples belong to two general periods: Period 3 B (2400–2350 BC) and Period 3 C (2180–2034 BC). He has derived the relative abundance value from the three principal means of measuring the archaeobotanical record: percentage of a given plant remains, its ubiquity and its density.[41] He has constructed a three-tiered hierarchical model of plant use which is like an inverted pyramid as given below:


High Percentage/Density Greatest Abundance
Triticum (Wheat), Hordeum (Barley)
Medium Percentage and Density
Lens (Lentils), Cicer (Gram), Pisum (Pea), Lathyrus (grass pea).
Low Percentage and Density
Zizyphus, Trianthema, Chenopodium and many wild and weedy varieties.

THREE-TIERED PLANT USE MODEL OF WINTER MONOCROPPING

This archaeobotanical analysis corroborates the interpretation of architectural evidences of Harappa, Mohenjo-daro, Lothal, etc., relating to granaries. This inverted pyramid model can be compared with the chart given below shedding light on the site-wise mapping of plant remains:

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Site-wise Distribution of Crop and Plant Remains at Some Harappan Sites[42] (After Chakrabarti)

Mohenjo-daro	Wheat, barley
Chanhudaro	Wheat, barley, mustard
Harappa	Wheat, barley, peas (*Pisum arvense*), sesame (*Sesamum indicum*), rice, and millets
Banawali	Basically unpublished, but wheat reported
Kalibangan	Wheat, barley, chickpea (Cicer arietinum), pea (Pisum arvense)
Rohira (district Sangrur, Indian Punjab)	Early Harappan context—modern *babul* (Acacia), *kareel* (Capparis aphylla), *jhau* (Tamarix dioica), teak (Tectona grandis), toon (Cedrella toona), khirani (Manilkara hexandra), and deodar (Cedrus deodara) woods; modern henna or *mehendi* (Lawsonia inermis) and grapevine (Vinus vitifera); mature Harappan context—in addition to *babul* and *jhau* trees and grape, *khejri* (Prosopis spicigera) and *sheesham* (Dalbergia sp.) woods, *ber* (Zizyphus jujube) and *harsingar/shephalika* flower
Mahorana (district Sangrur, Indian Punjab)	in addition to some of the things found at Rohira, an important find is hyacinth bean (Dolichos lablab), which needs 'frequent irrigation'
Hulas (Saharanpur district, UP Doab)	Wheat, barley, wild *(Oryza rupifogon)* and cultivated rice (*Oryza sativa*) as impressions on potsherds, sorghum and ragi millets, cotton, castor, almond, walnut and a variety of pulses, including *Dolichos biflorus, Pisum arvense, Pisum sativum, Lathyrus sativas, Vigan radiatus, and Vigna mungo*

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Lothal	*Babul, siris* (Albizzia sp.), teak (Tectona grandis), *haldu* (Adina cordifolia) and *Rohini* (Soymida febrifuga) wood; rice (identified with certainty in the Lothal report), and possibly, millet and sesame
Surkotada	Mainly Italian millet (Setaria Italica) and ragi millet (*Eleusing coracana)* in addition to a large variety of wild grass and plant species
Shikarpur (Kutchh)	Wheat, ragi millet and Italian millet in addition to woods inclusive of silk-cotton (Salmalia malabarica) and sal (Shorea robusta)
Rojdi	A variety of millets inclusive of *ragi*, Italian and sorghum millets and a variety of wild grasses and plants, some of which can be used as fodder.
Kuntasi	Wheat, barley, a variety of millets including Panicum, Italian and Kodo millets, and Job's tears, the seeds of which were probaby used for beads
Shortughai	barley, wheat, Panicum millet, lentil, pea, almond, pistachio, grapes and linseed.

Some archaeologists have suggested the idea of Mohenjo-daro being the principal pilgrimage centre/sacred city of this civilization on the basis of cosmology, as reflected in the eco-social environment of city planning, particularly the citadel section where the great bath and granary were built. According to them the agricultural products had been collected at Mohenjo-daro for religious offerings as well as for trading.[43] They have suggested the religious nature of the citadel area in general and that of granary and the great bath in particular. In their view, though the function of the granary appears to have been the preservation of agricultural produce, the main function seems to have been a symbolic display of authority and

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power. This reflects the religio-social dimension of agriculture in the complex urban structure of this civilization. In the recent excavations conducted in 1994 and 1995 field seasons, Harappa has disclosed various architectural remains pertaining to Periods 2 and 3 A, B and C (Early Harappan and Harappan). They include circular hearths, storage pot set into the floor, semicircular brick bins, etc. Semicircular bins were probably used for setting a grinding stone. A cloth draped over the bricks could have been used to collect flour or other food stuffs that may have been processed with such a grinding, stone.[44] As the biggest granary has been discovered from this site, existence of such food processing area could add new meaning to this structure.

(B) Sculpture and pottery painting

Harappan civilization has yielded a wide range of sculptural artifacts, including terracotta, metal figurines, seals and sealings and pottery sherds along with paintings. They throw significant light on the socio-economic and religio-cultural spheres of this complex civilization. The history of agriculture is no exception. A terracotta toy plough (Fig. 10) has been discovered from the Banawali (Hissar in Haryana) relating to mature phase of Harappan civilization.[45] Explorations/excavations conducted in the Cholistan (Pakistan) region have also yielded broken fragments of teracotta ploughs. Pre-Harappan horizon of Kalibangan has disclosed the ploughed fields dating back to before 2800 BC. Beautiful clay models of the plough have also been discovered at the site of Mohenjo-daro.[46] Preponderance of terracotta figurines of bulls suggest its importance in the rural-uban setting of Indus civilization. The bull was useful both in agriculture and trade. Clay models of bullock carts (Fig. 11a, b, c)) also suggest the centrality of bull in the economic sphere of this civilization. One of the most depicted figures on seals and sealings is also bull—both short-horned and Brahmani bull types which suggests its importance in the socio-religious sphere of this civilization.[47] The naturalistic rendering of lines, suggestive of

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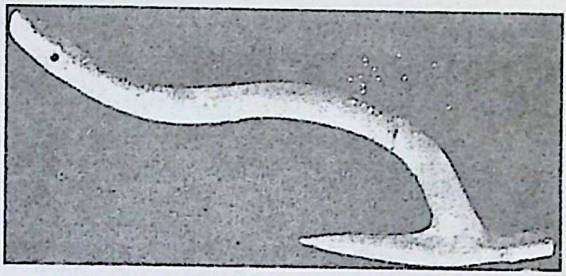

Fig. 10: Terracotta Toy plough, Banawali

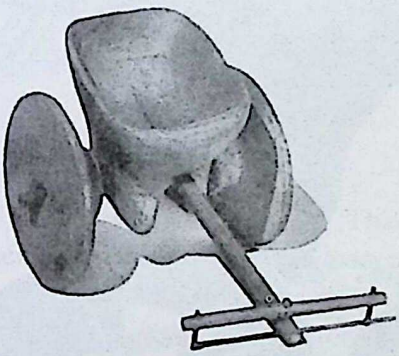

Fig. 11a: Clay models of
Bullock carts

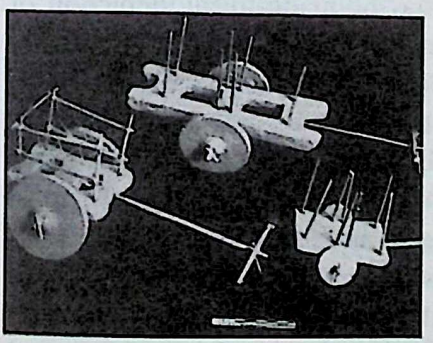

Fig. 11b

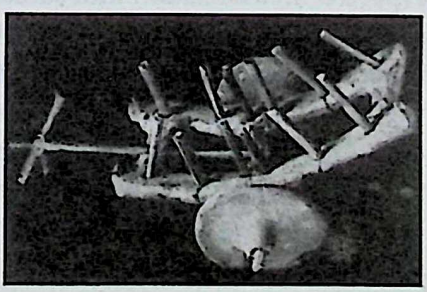

Fig. 11c

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muscular tension and movement of these creatures, is accepted as the evidence of highly skilled technique and aesthetics of Indus art.

Terracotta bull figurines recovered from Mohenjo-daro and Kalibangan are considered as excellent examples of Indus Plastic art. Some seals also portray buffalo figures in a naturalistic style. Buffaloes were also used in agricultural activities (Fig. 12) besides being used for dairy products.[48]

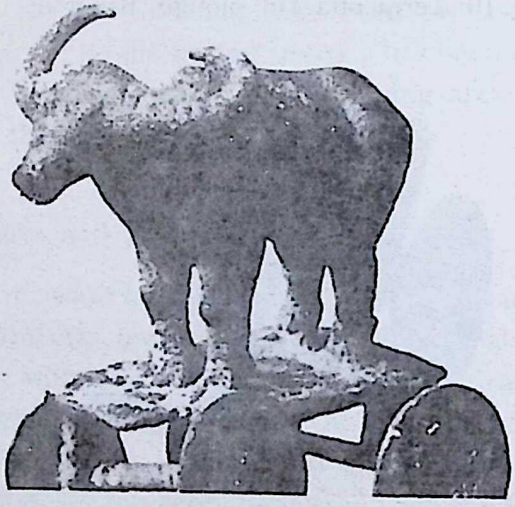

Fig. 12: Buffaloe-cart-Bronze
Diamabad

Seals representing plant forms are rare. Depiction of tree is seen on a number of seals. Reference may be made to the depiction of Pipal tree in association with some mythological narratives. One such seal depicts a pipal tree issuing from a jarlike object held by to unicorn like mythical creatures' conjoint heads[49] (Fig. 13). The whole motif betrays strong resemblance to a later Buddhist motif of the 'Triratna' variety. Another seal portrays an upside down female figure with a plant issuing from her womb.[50] Some seals depict elaborate ritualistic scenes where a deity is depicted between the branches of a Pipal tree, faced by a supplicating figure. In the foreground, a row of seven standing figures with plumed headdresses has been depicted which suggests the religious ritual

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Fig. 13: Harappan Seal

being performed in front of the deity.[51] These depictions are indicative of the existence of a tree cult associated with fertility. Sociologists and cultural anthropologists tell us about the existence of fertility cult ritual in agricultural societies. Therefore, these cultic/ritualistic depictions indirectly throw some light on the agricultural society of the Indus period. Pipal trees were necessarily planted in villages. More direct evidences on horticulture may be considered as those depictions which portray trees surrounded by a railing or platform.[52]

Harappan painted pottery reveals both the distinctiveness of artistic tradition and fundamental affinity with the Pre-Harappan wares of Baluchistan and Sindh and also with the West Asian ethos. Pottery sherds belong to the categories of the black-on-red, red, gray, buff and, black-and-red pottery traditions. Only 10% of the total pottery material belongs to the painted varieties in all the major sites. There are mainly black paintings on red surface, chocolate/purple black on buff, and white/creamy on the black-and-red surface. Designs are generally geometric but there are naturalistic to conventionalised animal and plant representations as well with occasional examples of human figures.[53]

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The checkerboard with its variations is a common motif on pottery sherds. An interesting example of this motif is represented in a complex pattern on a sherd from Harappa.[54] It has narrative quality with human and animal figures (Fig. 14). Mackay has suggested that checkerboard patterns have been derived from basketry.[55] Baskets of various shapes and size are an essential part of agricultural societies. Another typical design is described as the comb motif, which is an abstracted or conventionalized form of loop and suspended thread motif seen on Pre-Harappan wares. An intersecting circle motif is an excellent geometric design used on jars and pots.[56] Another design is like a block printing motif of seed or rosette like form.

Harappan plant motifs are naturalistic and constitute a purely local development within the Indus valley. Pipal tree, pipal leaves, spiky tree with a shield-like shape, lanceolate leaf along with roseattes, peacocks, fish scale patterns, seven-petalled flower, wavy lines, etc., are prominently represented on the painted pottery of this culture.[57] Several abstracted or conventional forms would have been representational but their context of meaning is lost to us. Sigma and chevron designs were very common which may have some representational/symbolic meaning attached to them (Fig. 15). A sherd from Mohenjodaro portrays highly conventionalised animal figures amidst plant motifs. Another sherd from the same site has conventionalised figure of an animal, tree and banana plant like leaves (Fig. 16).

From the above discussion of art-evidences it appears that flora and fauna constituted an integral part of human life in Harappan civilization. One cannot talk about agriculture solely as crop raising enterprise. Husbandry, horticulture and processing of their produce were essential parts of agriculture as there exists an intricate web of interrelatedness between agriculture and these abovementioned activities. There is no doubt in the existence of full fledged agriculture in Indus society. Big storage jars, variety of vessels, copper frying pans, saddle querns and cylindrical rollers, grinding stones, platform for pounding grains they all shed light on the food processing, cooking and storage habits of this civilization.

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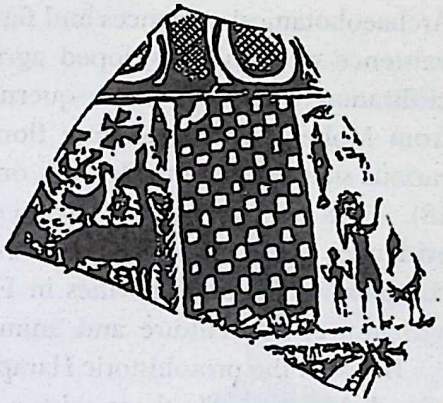

Fig. 14: Pottery Sherd from Harappa

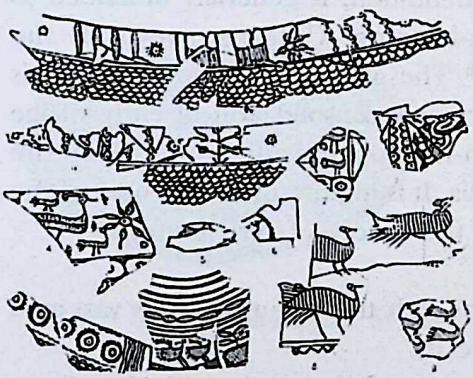

Fig. 15: Harappa ceramic tradition

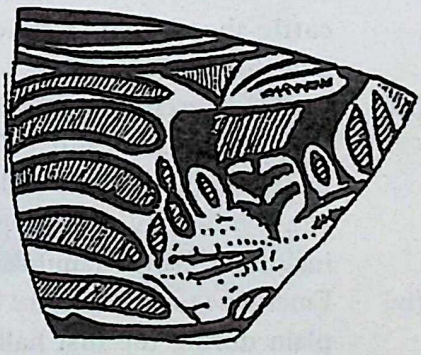

Fig. 16: Mohenjo-daro Pottery Sherd

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Archaeobotanical evidences and figurative art both corroborate the existence of highly developed agricultural activities in Harappan civilization (Fig. 17). Saddle-quern, hearths, a terracotta figurine from Mohenjo-daro kneading flour and carbonized grains from various sites throw valuable light on the history of agriculture (Fig. 18). Thus on the basis of archaeological artifacts and other art evidences one can safely infer the existence of systematic and complex agricultural activities in Harappan times, including both agriculture, horticulture and animal husbandry.

Between the protohistoric Harappan horizon and the beginnings of early historic India there exists a complex web of cultural pattern across the length and breadth of the Indian subcontinent, which, in the lack of any other suitable definition, is generally described as "Neolithic-Chalcolithic/Iron-bearing Cultures beyond the Harappan Distribution Zone".[58] The above archaeological term is used to map out the emergence and consolidation of early village farming communities of non-Harappan India to explain the foundations of early historic India. It is important to take note of the following facts in relation with the history of agriculture:

(i) Interaction of Harappans with the cultures of this vast area both directly and indirectly.

(ii) Archaeological evidences of domesticated rice from Koldihawa (Belan Valley, UP), indicating the emergence of rice cultivation in mainland paralleling the wheat-barley-cattle-sheep-goat strand of food-production of the Baluchistan uplands.

(iii) Complex archaeo-cultural sequence showing overlapping, late Harappans' and OCP horizon along with intricate pattern of black-and-red ware level succeeded by PGW (Painted Gray Ware) phase in Indo-Gangetic divide including Ganga-Yamuna Doab.[59]

(iv) Emergence of agriculture based on two crops in trans Sarayu plain during the first half of the second millennium BC as proved from the archaeobotanical remains of this period from Imlidih, Narhan and Sohgaura.[60]

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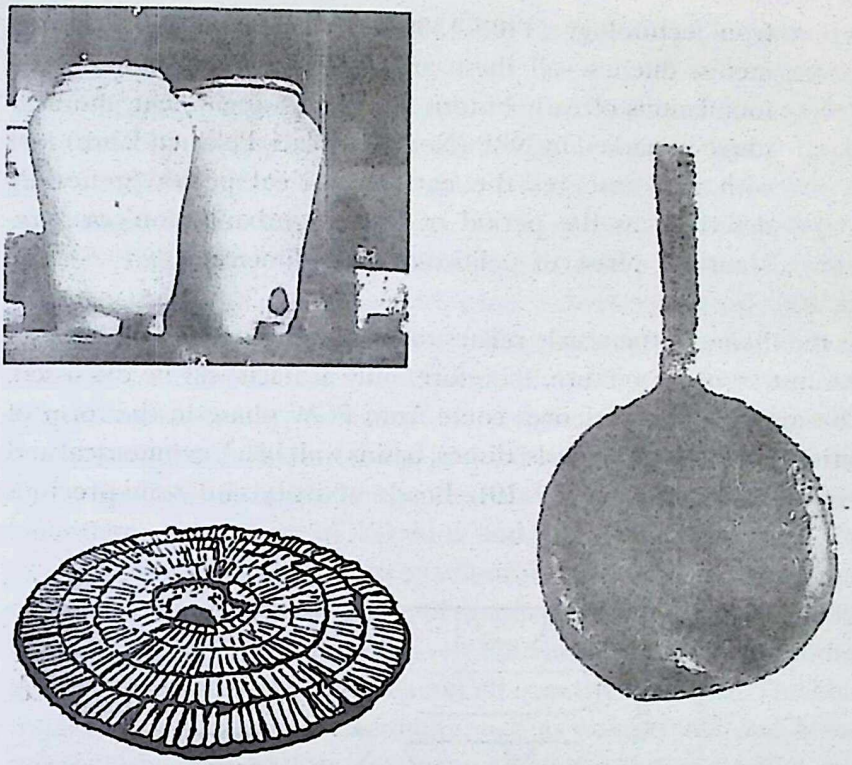

Fig. 17: Harappan Storage jars, Bin, Copper-pan

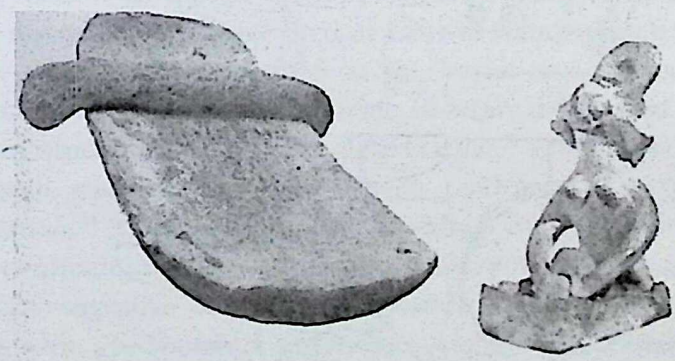

Fig. 18: Harappan Saddle-quern and Terracotta figurine Kneading dough

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(v) Iron technology (1400–1300 BC), fortified walls, embankments, ditches—all these archaeological facts indicate the foundations of early historic India. In Ganga Plain, the next phase is marked by NBP (Northern Black Polished Ware) and with this emerges the early historical period generally described as the period of 'second urbanisation' or 'pre-Mauryan' phase of politico-cultural dimension.

As the theme of the article relates to art evidences throwing light on the history of agriculture, therefore, only artifacts will be discussed. The most prolific evidences come from PGW phase in the form of various vessels such as bowls, dishes, basins with black geometrical and sun/floral designs[61] (Fig. 19). Beads of ivory and semi-precious

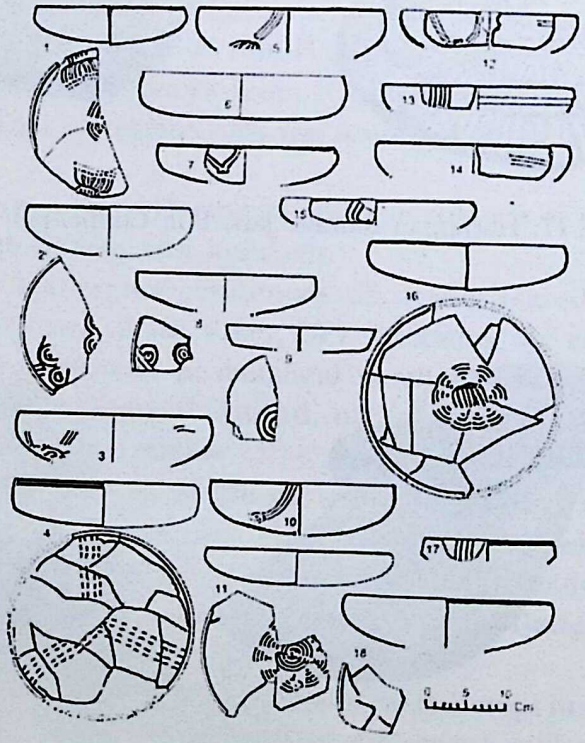

Fig. 19: Painted Gray Ware Pottery Forms and Patterns

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stones, lapis lazuli, ritualistic firepits, terracotta figurines, underground storage pits, overground clay storage bins, existence of moats, water channels, wells indicative of local irrigation systems for double cropping village-farming economy—all these characteristic features suggest the growth and development of agriculture in the post-Harappan phase of India's archaeological history (1500 BC onward) culminating at the first chapter of early historic India, i.e. pre-Mauryan phase. Archaeological and art remains definitely belonging to pre-Mauryan date are few and far between. Examples of terracotta of the mother goddess type generally classified as pre-Mauryan on stylistic grounds are important from two points of view. Firstly, they provide a link between Indus Valley figurines of the Mother goddess and those belonging to Sunga-Satavahana sculptures of Yakshini and/or Mother godesses. For example, a pre-Mauryan terracotta figurine recovered from Mathura and presently in Boston Museum of fine Arts[62] is closely related—both iconographically and stylistically—to the earlier tradition of Mother goddess found not only in India but all over the near east. The bold display of the features of fecundity such as exaggerated and broad pelvis and heavy breasts are meant to suggest her fertility cult association, which in itself, is one of the most important characteristic features of agricultural society all across the world. Secondly, they symbolise the fertility cult tradition of agricultural society.

A number of tumuli or stupa-like solid earthen mounds have been discovered and excavated at Lauriya Nandangarah in Bihar. These mounds are described as the burial sites having religio-political connection of pre-Mauryan funerary beliefs and practices echo of which may be found in Ṛgveda itself.[63] From these mounds, two gold *repousse* figures have been recovered in a systematic excavation.[64] These small figures portray a nude Mother goddess with emphatic display of an enormously broad pelvis and heavy breasts, suggestive of fertility attributes. These small statuettes, along with pre-Mauryan terracottas, suggest the ritualistic and symbolic nature of art representing the cult of Mother goddess/ fertility rites prevalent in agricultural society. The earth and its fertility are worshipped and ritually enhanced through religio-

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magical practices to protect the environment and agricultural production. Thus, these Mother goddess figures could be described as art-evidences throwing significant light on agricultural rituals and practices.

Agriculture and Mauryan Art

Mauryan art seems to be a turning point in the long history of ancient Indian art. Within it, several new forms and transformations start appearing. The most revolutionary feature of Mauryan art is the use of Chunar sandstone in various forms as well as mirror-like polish on the surface. Another noteworthy feature is its royal court patronage having a direct impact on the form and technique of Mauryan art. Even folk art idiom, running parallel to court art, took stone as its medium. There does not occur any direct depiction of agricultural scenes in Mauryan art. But the continuity of the earlier mother goddess tradition in terracotta, along with Yaksha-Yakshini life-size stone sculptures, suggest the existence of fertility cult in the society. The earth was propitiated as mother goddess in order to yield rich crops and prosperity. Another feature reflecting the religio-magical practices prevalent in agricultural society is the evidence generally described as ring stones/disc stones recovered from several sites stretching from Taxila to Patna. In all, sixty-four of these are known till date. These carved ring stones are exquisitely carved on the obverse in jewel-like workmanship. These carved ring stones are possibly the earliest examples in which human, plant and animal life co-mingle within a framework of geometric patterns.[65] Nude figures of the Mother goddess are depicted amidst lotus flowers, geometric patterns, palm trees, running frieze of real and mythical animals such as winged creatures, stags, alligators, lion, elephants, horse, goose, lizards, etc., and in some cases, accompanied by nude males or males wearing kilt-like garments. Marshall was of the view that these ring stones were directly related to the earlier tradition of yoni worship in Harappan civilization.[66] Colonel Gordon and Banerjea have also endorsed Marshall's view.[67] Banerjea also

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suggested their association with cult objects like Sri-Yantra/ Vishnupattas/Ayagpattas of the Saktas, Vaishnava and Jainas respectively.[68] Pramod Chandra and Moti Chandra have drawn the attention to the West Asiatic, particularly Bobylonian parallels of the nude Mother goddess in context of these ring stones.[69] Most scholars are in agreement on the identification of the nude female deity (i) as Mother goddess symbolizing Earth or Goddess Prithvi; (ii) as a cult object of fertility rites performed in association to agricultural activities and birth process; (iii) as the great Mother Goddess symbolizing death and rebirth; and (iv) as heavenly female patronizing deity of prosperity and abundance associated with rain/ water symbology and its life-giving, life-nourishing quality. Anthropological surveys have proved the continuity of such cult objects in modern village communities of India and other countries. Hence, we could conclusively take these ringstones (Fig. 20) suggestive of agricultural religio-magical beliefs and practices of Mauryan phase of Indian History, though some of these ring stones may belong to second or first centuries BC.

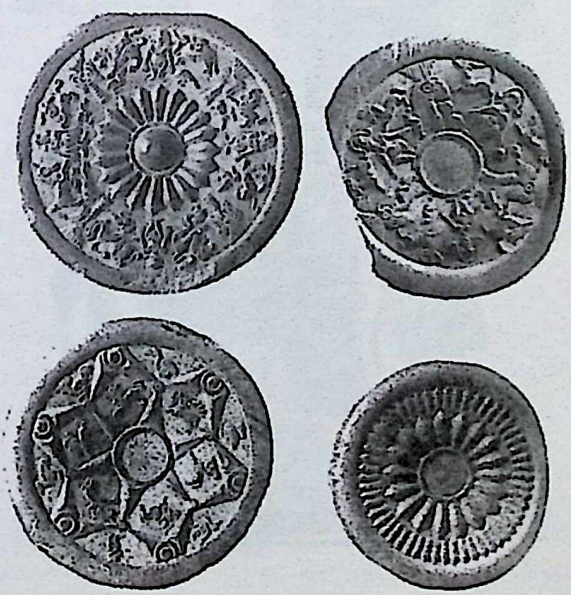

Fig. 20: Ringstones

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Animal figures found on Asokan pillars have multivariate meanings and symbology attached to them. On the one hand, they are related to Vedic Cosmology and Solar cult, on the other, they are direct descendents of the prehistoric traditions of animal worship such as discovered in the pre-Harappan, Harappan and other Neolithic-Chalcolithic cultures of the Indian subcontinent. The Rampurwa Bull betrays strong Indian links, both iconographically and stylistically to the Harappan Bulls depicted on seals and sealings. (Fig. 21). From prehistoric times, the bull was intimately associated with fertility cult, the concept of virility and reproductive power all over the world. In Indian village life, till date, bulls are treated with religio-magical reverence and awe, particularly, in Saiva sects. Therefore, depiction of bulls on Asokan pillar capitals—as topmost animal figure as well as on the border of abacus—may be described as art-evidence directly related to agricultural practices and beliefs.

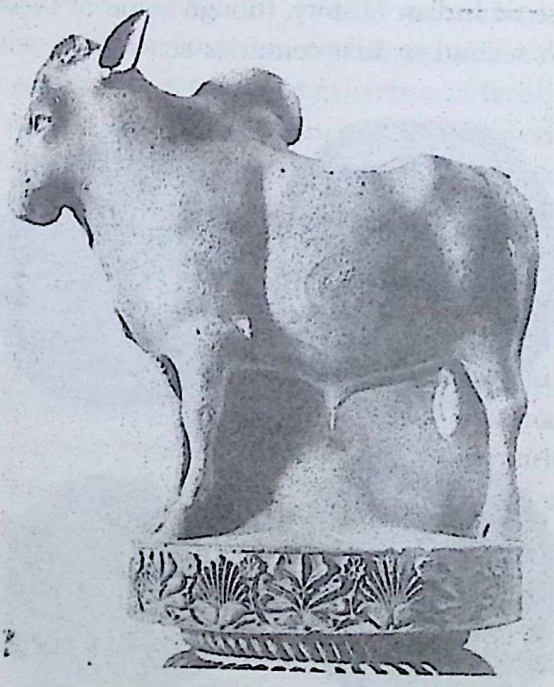

Fig. 21: Asokan Pillar Bull Capital, Rampurva

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Lifesize statues of Yaksha and Yakshini have been discovered from several historical sites such as Mathura, Patna, Paways, etc.[70] (Fig. 22). They belong to folk religion and beliefs being formed over the time and consolidated legacies of successive waves of human cultures ever since the first phase of prehistoric beginnings of

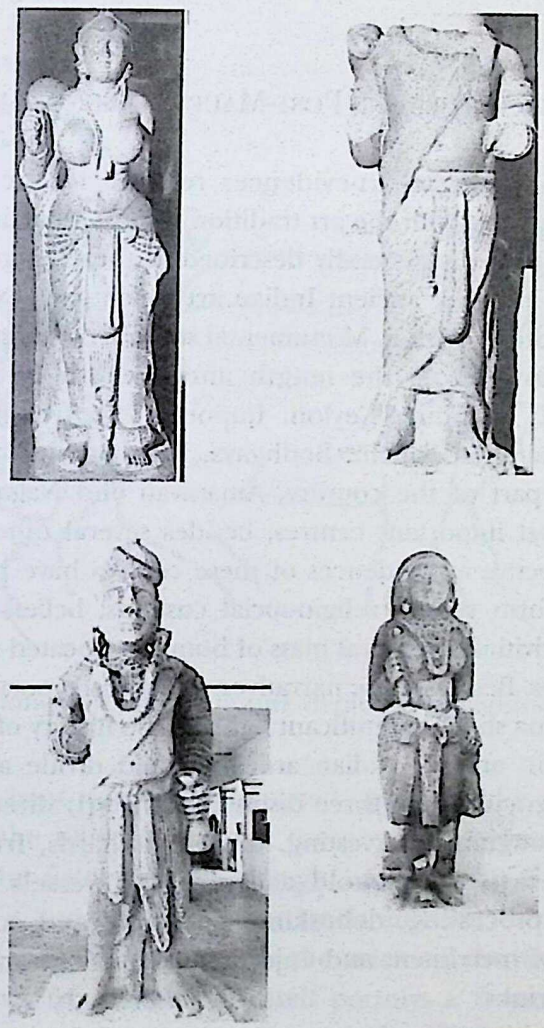

Fig. 22: Mauryan-Sunga Yaksha-Yakshini figures

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community life. They symbolize worldly power, prosperity and well-being. Health-wealth syndrome of popular beliefs were expressed through these Yaksha—Yakshini figures. They have multilinear meanings such as solar and water symbology, Supernatural power and semi-divine nature associated with them. They were popular both in rural/agricultural and urban/money-economy related communities.

Agriculture and Post-Mauryan/Sunga art

We come to concrete art-evidences relating to the history of agriculture in India with the art tradition of post-Mauryan or Sunga period. This phase is generally described as the emergence of the first classical idiom of ancient Indian art which gave expression to popular Buddhist religion. Monumental stupa art emerged in a pan-Indian fashion across the length and breadth of the Indian subcontinent, including Ceylon. Important centres in northern India are Bharahut, Sanchi, Bodhgaya, Kaushambi, Mathura and, in southern part of the country, Amaravati and Nagarjunakonda were two most important centres, besides several others.

The collective art-evidences of these centres have portrayed in a narrative form several religio-social customs, beliefs along with mundane activities of general mass of humanity located in rural and urban settings. Besides these narratives, the realistic portrayal of rich flora and fauna sheds a significant light on the history of agriculture as depicted in ancient Indian art. We could divide art-evidences relating to agriculture in three distinct groups: (i) direct evidences depicting ploughing, harvesting, groves, orchards, fruits, animal herds, cattle; (ii) household activities and vessels relating to agricultural processing, dehusking, pounding and cooking; and (iii) scenes of merriment and enjoyment depicting various cooked foods and drinks.

Direct evidences relating to agriculture, horticulture and animal husbandry are largely depicted on the railings and gateways of Bharahut, Sanchi, Bodhgaya and earliest phase of Amaravati.

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Rajaram Hegde has reproduced a line drawing of plough on the basis of a Bodhgaya panel.[71] The panel clearly depicts a farmer engaged in ploughing with the help of Indian variety of plough pulled by two harnessed bulls. The farmer is holding a stick in his left hand while with the right hand he is controlling the plough (Fig. 23). Three parts of this type of plough are clearly visible in the

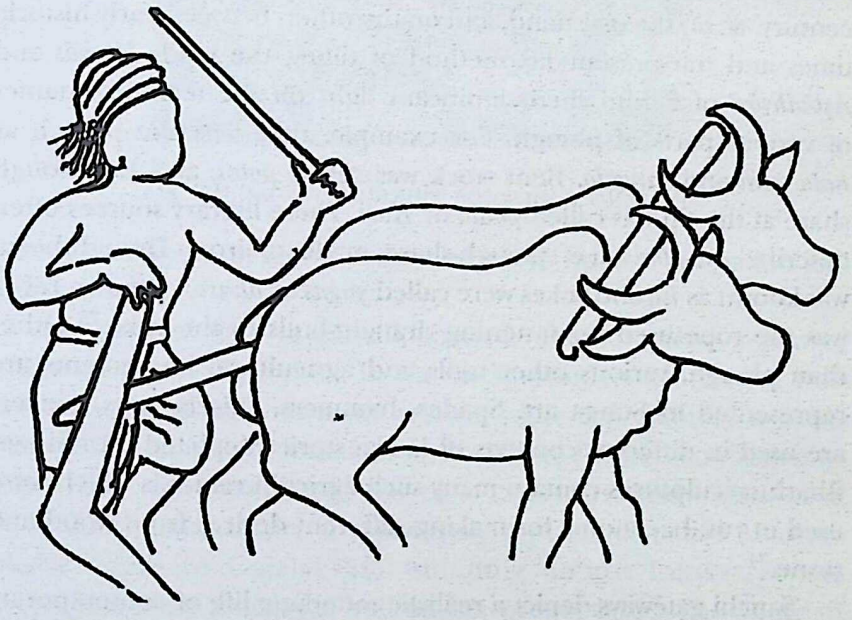

Fig. 23: Bodhgaya Panel Sculpture depicting ploughing of a field

panel: (i) A bent stock with elongated upper end for stilt which is lower than the tiller to facilitate the process of pressing it while ploughing the field; (ii) The draught-beam fastened to the stock by inserting it into the hole in the stock; and (iii) the yoke tied to the draught beam and kept on the neck of the draught-bulls. Another panel from Bodhgaya itself portrays a farmer carrying a bent plough-stock without the draught beam.[72] This suggests that stock and draught-beam were joined together while tilling the land. They were detachable separate parts.

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The above Bodhgaya panel, depicting the Indian plough, is very important from two points of view in relation with the history of agriculture as reflected in ancient Indian art. Firstly, after the Harappan toy model this illustration seems to represent the early Indian plough used in second-first centuries BC. Secondly, this illustration shows the continuity of form and technique of plough and ploughing from protohistoric times till date as it provides a visual link documented in art between prehistoric times and second-first century. BC on the one hand, and on the other, between early historic times and the present-day method of tilling the land. *Jātakās* and *Aṣtādhyāyī* of Panini shed significant light on the technical names of various parts of plough. For example, they describe plough as *hala, sira* and *langala.* Bent stock was called *potra,* and the plough share at the tip was called *phala* or *Kusi.* These literary sources often describe *aya-phala,* i.e. plough-share made of iron. Draughtbeam was known as *isa* and yokes were called *yugas* or *dhuras. Yotra* or *Yoktra* was the rope used for fastening draught-bulls to the yoke.[73] Other than plough, various other tools and agricultural implements are represented in Sunga art. Spades, hammers, chisels, saws, pincers are used in different contexts of Jātaka stories depicted on railings. Bharhut sculptures contain many such agricultural tools which were used in rural economy for making different devices from wood and stone.[74]

Sanchi gateways depict a realistic mundane life of contemporary society which throws much light on agriculture, horticulture and husbandry practiced in those times. There are some elaborate scenes which portray the rural economy based on cultivation and husbandry. On the eastern gate of Sanchi at its south pillar-inner face-upper panel, there is a depiction of village life with all its nuances.[75] (Fig. 24). In the foreground are shown animal herds, particularly buffaloes, bulls, goats and sheep amidst creepers and lotus flowers, indicating a pond. This scene is described as the village of Uruvila where the Buddha broke his fast. An empty platform under a *Chatra* or umbrella suggests the Buddha's association. The depiction of cattle is so realistic that it makes the whole ethos of village life and animal husbandry come alive before our eyes. Cattle

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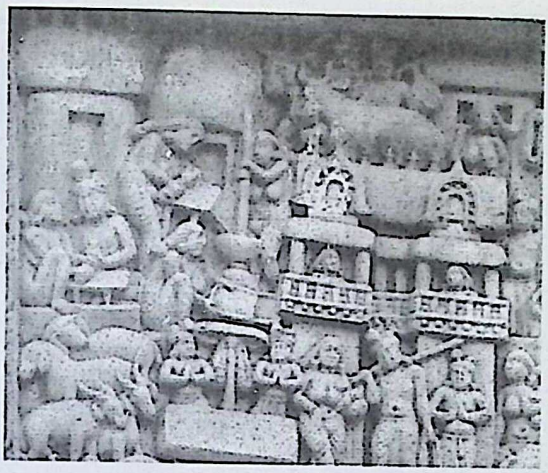

Fig. 24: Sanchi Sculpture showing a village life

played an important role in village economy both in cultivation and dairy farming.

At the west gate of Sanchi, there is another scene depicting buffaloes muddying a pool. In the background, small circular huts are depicted along with some archers while representing a *Jātaka* story.[76] Importance of buffaloes in the village life gets confirmed by this artistic portrayal. Fragment of a *torana* architrave discovered from Kaushambi district and presently kept in Allahabad Museum has a figure of Gajalakshmi standing amidst lotus creepers accompained by a majestic bull on her proper left.[77] The figure of the bull betrays a strong resemblance with the bull carved on Rampurva bull capital of Asoka. This architrave suggests the religious background of the bull associated with the popular folk beliefs of agricultural society. Besides these two Sanchi scenes, there are numerous representations of bulls and cattle in Bharahut and Sanchi sculptures. Amravati and Nagarjunakonda sculptures also depict bulls resembling those portrayed in Sanchi and Bharhut reliefs.[78] A beautiful bull capital from Manhai in Kaushambi district has been recovered. The majestic bull is shown wearing a jewelled garland suggesting its religious status.[79]

Thus, we may conclude that animal husbandry not only constituted an important part of agricultural society but was also

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responsible for introducing animal worship, fertility cults and several other religio-magical beliefs and practices absorbed in folk religion. Other than bulls and buffaloes, we find depictions of horse, camel, rat, squirrel, elephant, antelope, monkey, peacock, parrot, swan, fish, dog, crow, cock, stags, etc., in the sculptures of Sunga period.[80] These animals were an integral part of village life.

Flora constitutes a major part of Sunga sculptures. Many varieties of trees and flowers are depicted to represent the place of nature in human society and their mutual interdependence. Śālbhanjikā of the gateways at Sanchi are depicted as holding the branch of a mango tree with bunches of mangoes hanging from them.[81] The rich variety of fauna depicted on Bharahut, Sanchi, Amaravati sculptures suggests the important role played by horticulture in the economy of village life. Tree worship was a prehistoric tradition. Harappan seals and sealings represent the religious background of the Pipal tree. Buddhism is a religion where different kinds of trees and their groves are associated with the great events of the Buddha's life. Bharahut Vedica sculptures contain depiction of specific trees associated with Manuṣi Buddhas or Purva-Buddhas. For example, Pipal is associated with Gautama Buddha, Vatavriksha with Kashyapa, Udumbar with Kanakamuni, Patali with Vipasmin, Salavriksha with Vishvabhu, Sirisa with Krakucchanda Buddha.[82] This shows the cult of tree worship which was duly integrated with the popular practices of Buddhism so as to create a bridge between folk religion and Buddhist sects. From our point of view this evidence is important in that it reveals horticultural ethos of contemporary society. As the scenes are depicted in rural/urban settings, therefore, we can conclude that trees played an important role in the socio-religious and economic spheres of contemporary life. Trees were planted both for ornamentation and utilitarian purposes such as gaining flowers and fruits for medicinal and culinary delights. Jetavana (Fig. 25) and Ghoshitaram monasteries were attached with mango groves as Bharahut and Sanchi depictions bear witness to it.[83] Śādlbhanjikā/ Dohada motif (Fig. 26) is suggestive of fertility cult associated with female/earth as the symbol of reproductive power. In the magico-sexual rites, women are considered to increase the fertility of the soil

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Fig. 25: Bharhut Jetavana Scene

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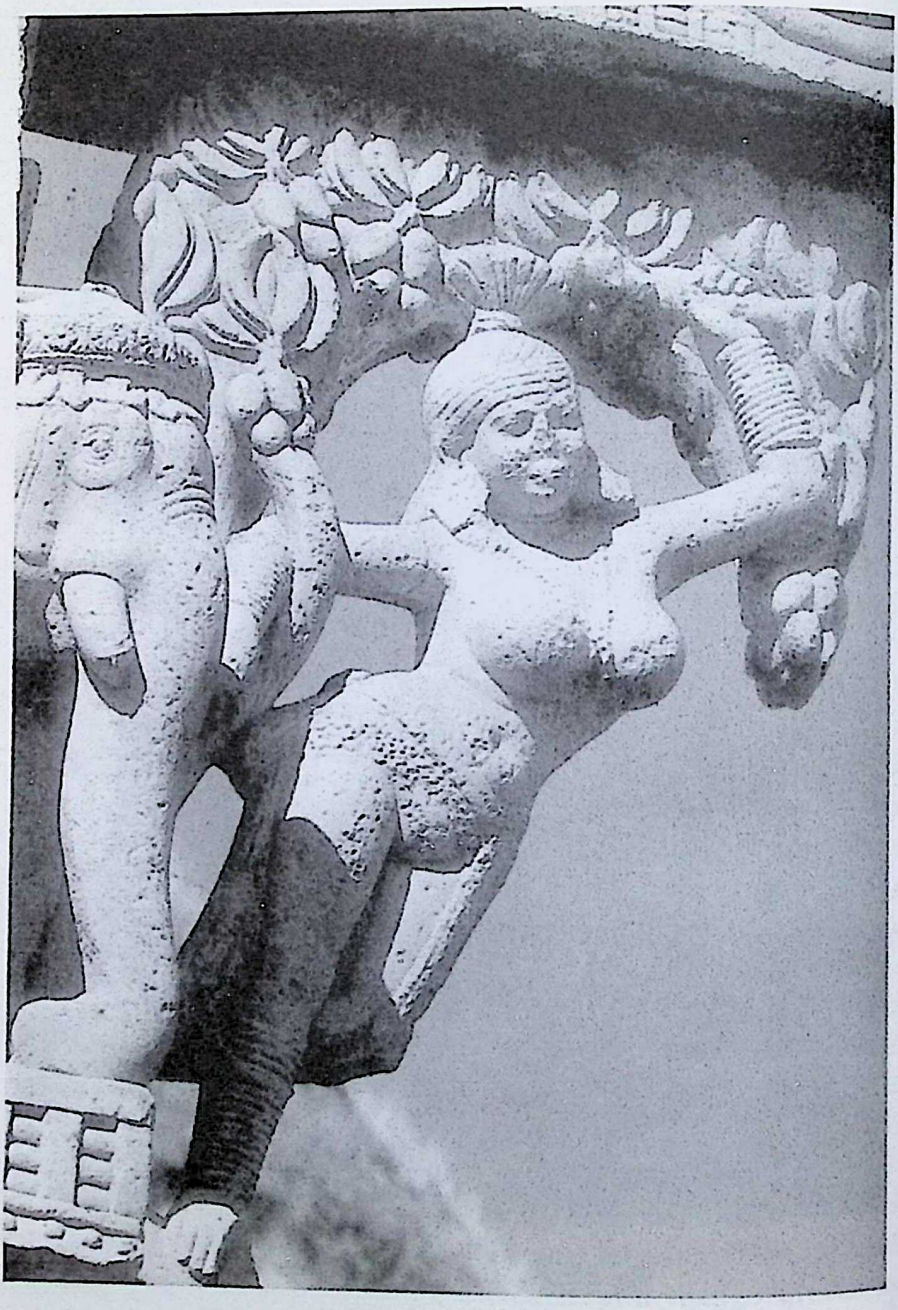

Fig. 26: Sanchi Śalabhanjikā Motif showing Mango Fruits

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and vegetation. They are involved in various rites such as bringing rain and enhancing agricultural fruitfulness. Anthropological studies suggest that in agricultural societies, cultivation of the soil is connected with the child-bearing function of women. Hence, Śālabhanjikā-Dohada motif and several other rituals were performed to enhance the power of fertility both in women and trees. The notion that a woman fertilizes trees and trees increase and protect female reproductive power has been deeply rooted in India's ancient tradition.[84] Bharahut and Sanchi reliefs have numerous depictions showing varieties of fruits. Among them, banana, mango, grapes, custard apples and jackfruits are noteworthy.[85] In Bharahut, a custard apple is shown issuing from the wish-fulfilling creeper along with leaves of the tree.[86] In one of the *Jataka* scenes on Bharahut railing, there is a beautiful depiction of a banana plant with a clear portrayal of a shaft, leaves and bunches of fruits.[87] Both Bharahut and Sanchi sculptures contain realistic depictions of grape vines (Fig. 27) along with bunches of grapes.[88] At Sanchi on the North Gate lower architrave, and on the Western Gate, garden scenes are depicted with banana plantations.[89] Ripe mangoes and jackfruits are shown issuing from Kalapalata or creeper scrolls.[90] Besides these depictions of groves, trees, plants and fruits, there are certain scenes which portray

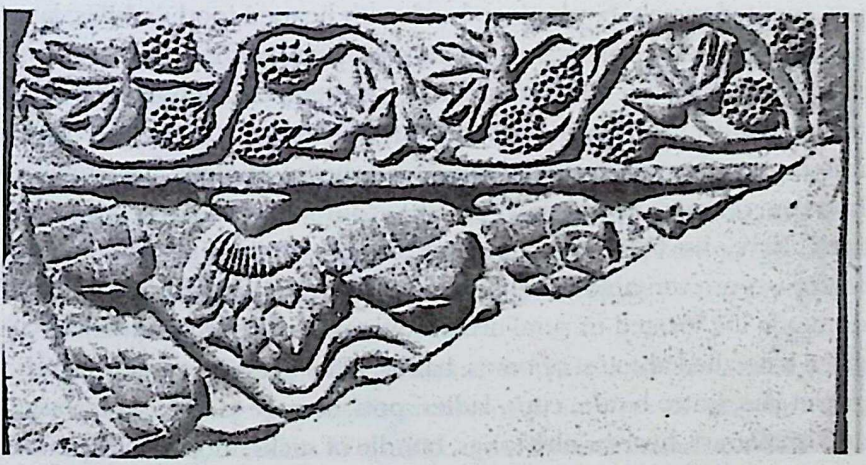

Fig. 27: Bharhut Grape-Vines

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the process of housekeeping, processing of grains, cooking and eating, etc. At Sanchi, one of the scenes on Torana depicts the natural surrounding of a village life (Fig. 24) along with household chores shedding light on agriculture. In the foreground, buffaloes, bulls, goats and sheep are depicted amidst foliage and creepers. In the middle, an empty seat with an umbrella occupies the place of honour. Keeping with the works relating to agriculture and husbandry, a person is shown carrying a staff on his right shoulder and a bundle of rope in his left hand. In the background on the right side, multistoreyed buildings are depicted. On the left side, two huts are shown. In front of the hut women are busy with domestic chores such as grinding either herbs or spices, pounding grain, probably rice in a mortar and winnowing or dehusking paddy with a chaaj (winnowing tray). A chaaj with its sides rounded, saddle and quern also find place in this realistically depicted domestic scene. The saddle is four-legged and oblong, while the quern is cylindrical. A tall tripod-like object is depicted on which a woman is pounding something or rolling a cake. It is noteworthy that the lady is rolling the cake/chapati in standing position. Shape of the mortar is like an hour glass and seems to be made of stone. The pestle is like a heavy staff and a lady is shown standing while pounding or dehusking the paddy.[91] Baskets full of fruits and grains, various types of vessels and pots such as jugs, wine pot, spouted vessels, bowls, deep bowls with heaped food, laddles, jars, pots hanged on a pole with net of ropes, pots hanging from roof in a net, bullock carts — all shed significant light on eating habits relating to agriculture and horticulture/dairy farming.[92] Thus one finds numerous scenes depicting mundane spheres of daily life such as hunting, eating, cooking (Fig. 28), and other acts relating to agriculture, horticulture and dairy farming. Bharahut and Sanchi sculptures are veritable storehouse of such scenes informing us about domestic life located in rural-urban settings. K. Krishna Murthy[93] has given a detailed account of bowls, basins, plates, vases, spouted vessels, goblet jars, water bottle, cups, ladles, pots, storage jars, baskets, large and small trays, hearths, fire tongs, bundle of sticks, mortar and pestle, legged quern and muller, winnowing basket, pegs, fans, axe and many such items used in daily life of rural-urban societies. Hunting scenes

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Fig. 28: Bharhut Jatak scene depicting food and fish

suggest the practice of meat eating, which is related to the agricultural way of life.

The terracotta art of this period is also important from the point of agricultural history. For example, the terracotta figurines described as Sinivali[94] show corns attached to her head-dress. She is, no doubt, a goddess worshipped to gain fertility of soil and prosperity of crops. Another Sunga terracotta figure discovered from Kaushambi is unique in that it portrays a picnic party moving in a chariot (Fig. 29). A huge platter or thal of cooked food is depicted with clear suggestion of rice, sweet balls, round cakes, etc.[95]

The famous Panchachuda figure is typical of Sunga period terracotta art. They have been recovered from various sites in mid and lower Ganga Valley (Fig. 30). The figurine discovered from Kaushambi portrays a divine female figure with beautiful smiling face. Her bejewelled dress and ornaments and majestic head-dress

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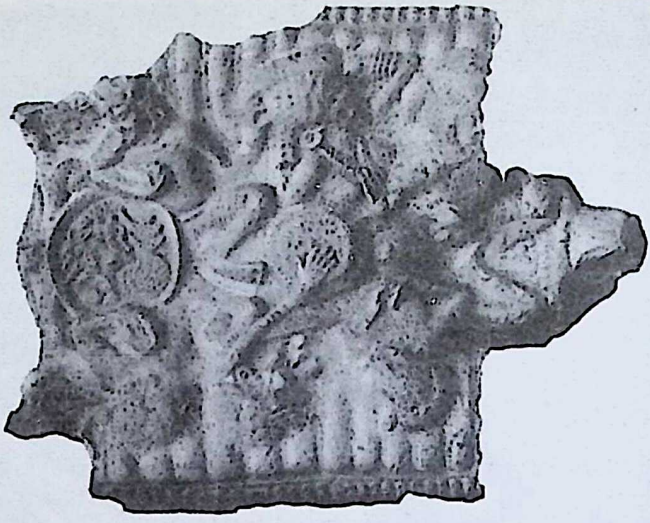

Fig. 29: Sunga Terracotta from Kaushambi showing picnic on a cart

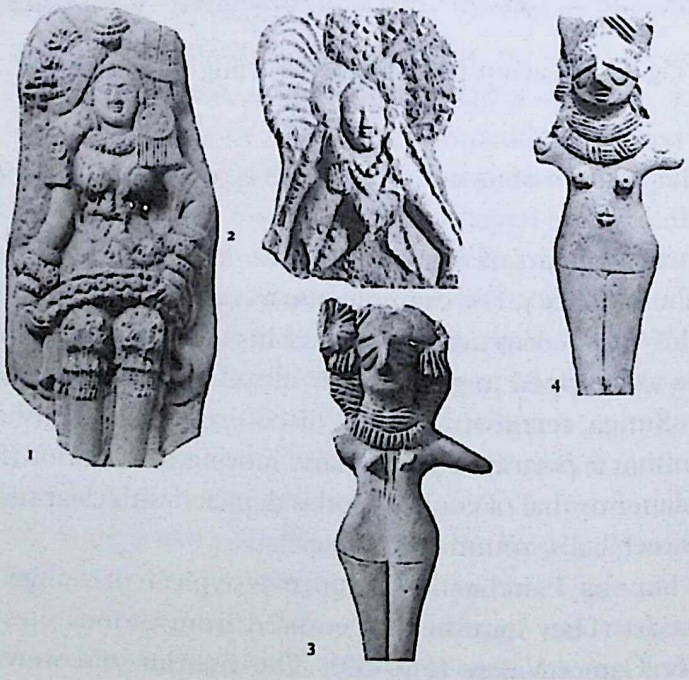

Fig. 30: Panchachuda and terracotta figurines from Kaushambi and other sites

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suggest her religio-magical nature. Five auspicious symbols like arrowhead, flag, goad, trident-like objects, axe, mirror and comb like symbols are attached to her head-dress on her right. Till date, objects such as mirror, trident, flag, etc., are used in popular folk cults of Indian culture. This figurine also suggests her fertility cult association and her agricultural background.[96] Likewise, a Sunga period Balaram statue has been recovered from Mathura. He is shown holding a club/pestle in his right hand and a plough-like implement in his left hand and shoulder.[97] Thus, we may conclude that art-evidences relating to Sunga-Satavahan period are very important from the point of shedding significant light on the history of agriculture.

Agriculture and Kushana art

Chronologically, the next phase of Indian art belongs to Kushana-Gupta art idiom. This phase has few of its own characteristic features. Stylistically Kushana art carries the legacies of preceding art idiom of Sunga-Satavahana phase. But, it also possesses time-bound and time-specific natural transformations of previous art forms without any abrupt change or discontinuity, as well as, anticipates future forms by paving the way for gentle processes of assimilation, integration and innovation. Now narratives take a backseat and the human form occupies the central position with the result of full integration of nature with the human form itself. Stupa architecture continued but instead of the narratives of the *Jātaka* stories and events of the Buddha's life, now lifesize statues of Yakshini figures in various postures were chosen as the theme of art-expression. Another major change came in the form of human Buddha images both in standing and sitting postures. The Kushana age was an age of free intermingling of outside art forms and cosmopolitan world views. Gandhar art bears testimony to this fact. Mainland art centres like Sarnath, Kaushambi, Mathura also absorbed these foreign traits and with their inherent art skills produced Indianised masterpieces relating to Buddhism, Jainism, Hinduism and other folk cults.

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Archaeological artifacts discovered from excavations at different sites throw much light on agricultural implements. For example, from the excavations carried at the Bhir mound, Taxila, several iron agricultural implements have come to light. They are hoes, hoes with chisel-like blades, spuds with broad blades used like *khurpa*, true spade, weeding-forks, sickles and many such forms.[98]

Bhir and Sirkap mounds have produced in the excavation pivot stones, querns, mullers, pestles, mortars, grinding mills, etc.[99] Iron sickles and iron trowels of Kushana period are also kept in the Sanchi Museum.[100] Several excavated sites have revealed brick-wells, which were used for irrigation.[101]

Other than these artifacts there are some depictions in Gandhara-Mathura art of the Kushana period which throw direct light on the history of agriculture. For example, in a Gandhara relief, which is now kept in Lahore Museum, Pakistan, a farmer is shown wearing an Indian dhoti above the knees engaged in the art of ploughing a field (Fig. 31). The plough is very heavy and resembles

Fig. 31: Gandhara relief showing ploughing of a field

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a kind of plough still used in the Solan area of Himachal Pradesh.[102] One can compare this Gandhara relief with that of Bodhagaya panel and bring out the tradition of continuity and regional variations.[103] almost identical scene of a farmer ploughing a field has been reproduced by Som Prakash Verma on the basis of a Bodhisattva statue from Sahri-Bahlol, kept in Peshawar Museum. On the pedestal, a farmer is shown pressing his right hand on the stilt of the plough which is yoked to the necks of two bulls.[104] Mathura railing pillars are another source of information throwing light on the mundane life of contemporary society. These railing pillars portray lifesize statues of beautiful charming ladies in pleasant postures and different moods of joyfulness and playful activities such as playing with a ball/a parrot, engaged in toiletries, playing a Veena like instrument, carrying swords, displaying an intoxicated state of being, standing under Asoka/Sala trees in Salabhanjika/Dohada posture, etc. Salabhanjika figures are important in that they suggest fertility cult. This cult had wide popularity both in rural and urban communities. Originally, they were associated with agricultural societies as a magico-religious motif of increasing soil fertility and vegetative power of trees. Gradually, they were assimilated in all the three major religions, i.e. Buddhism, Jainism and Hinduism as semi-divine beings capable of bestowing untold riches and prosperity to their worshippers. These Mathura railing pillars bear testimony to the aesthetics and popular beliefs of the composite culture of Kushan India.[105] Among them, two types of images are more relevant to the theme of this chapter. Particularly important is the majestic lady standing with a wine jar holding in her left hand and a bunch of grapes in her right hand (Fig. 32). Above her, one couple

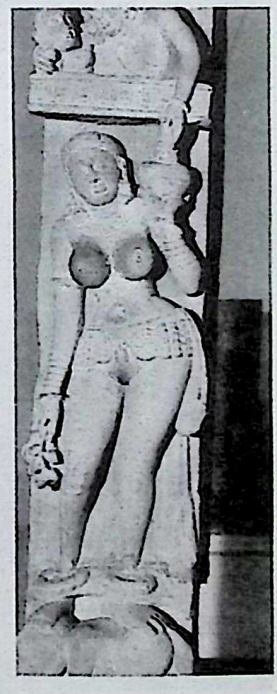

Fig. 32: Mathura railing pillar Lady holding a wine-jar and grapes

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is depicted in an inebriated mood trying to reach for the wine jar from above the railing. Indirectly this image gives information of grapes and wine, probably made of grapes.[106] Horticulture practices included grape vines and their processing to gain wine and other beverages. The double-sided bowl support from Palikhera, Mathura shows the pot-bellied Kubera being served wine, specifically grape wine, indicated by the grapes held by the figure on the left by a person dressed in Hellenistic dress. Import of Greek wine and ladies is mentioned in various historical sources, both classical and Indian. This scene also suggests the impact of Dionysic rites in contemporary society.[107]

Drinking wine became a pastime activity among the elites, as is suggested by the so-called famous scene of the inebriated woman supported by her husband.[108] Yaksha-Yakshini sculptures along with Naga images suggest the popularity of tree worship along with serpent worship.[109] Another group of images are described either as Sri-Lakshmi or as Nourishing Prithivi. One railing pillar, kept in National Museum, New Delhi, shows a beautiful lady standing on Purna-Ghata from which lotus flowers and creepers are issuing in a stylized foliated form. On the back two beautiful peacocks are depicted to suggest natural ethos and beauty (Fig. 33). The lady is holding her left breast in her right hand in a motherly posture of feeding a baby.[110] Another railing pillar shows a lady standing under a Asoka tree, holding her right breast with her left hand.[111] Both

Fig. 33: Mathura Railing pillar-Purna-ghata Sri Lakshmi/Prithivi

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these images combine three elements relating to fertility cult: tree worship, Mother Goddess cult and water worship in the form of Purna-Ghata or a vase. They symbolize the reproductive power of a woman, the vegetative power of trees and fertility of the earth. All these traits are the legacies of agricultural society.

Gupta art had very few narratives. But iconography suggests prevalence of agricultural customs and beliefs such as tree, serpent and bull worship. At Kaushambi, a Naga worship scene depicts a lady carrying a heaped dish of food.[112] Divine images of Kaushambi school are depicted holding fruits in their hands, particularly custard apple or pomegranate variety.[113] Art historians who have tried to give materialistic interpretation of the Gupta art under the framework of Marxist philosophy have tried to situate Gupta art in feudal milieu where the process of deurbanization had paved the way for rural and agrarian way of life. In this set up land and cultivation occupied more importance than urban trade and commerce. Popularity of Varaha cult rescuing the goddess earth from the ocean of chaos is interpreted as symbolizing the feudal agrarian setup where more and more land was brought under cultivation. The famous Varaha mythology of Udayagiri cave 5 thus bears testimony to the expanding agricultural milieu in the Gupta period.[114]

Ajanta paintings contain some interesting scenes relating to cooking, hunting and other domestic activities. In Cave XVII, there is a scene of royal kitchen where several cooking pots, vessels of food and other implements are depicted.[115] In the same cave, donation hall of King Sibi is portrayed where servants are shown bringing food and gifts in vessels and pots.[116] There is a realistic depiction of a village life where a farmer is portrayed along with his thatched hut, herd of cattle, banana plants, bunches of fruit/corn suspended from the peg.[117] In fact, Ajanta paintings are a veritable storehouse on the life of various strata of society. Variety of flora and fauna and scenic beauty depicted in these paintings throw significant light on the activities relating to cattle breeding, husbandry, horticulture, domestication of animals, eating and drinking habits, food and fruit, etc. Cave I has a beautiful scene (Fig. 34) of attendants carrying pitchers.[118] Cave XVII, Visvantara Jataka story has a realistic depiction

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Fig. 34: Ajanta Painting

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of an areca-nut tree behind Prince Visvantara.[119] Cave II contains scenes of devotees bringing offerings, a child carrying a hen, beautiful ceilings with lotus scrolls, geese, cherub bringing a plate of offering, two men drinking together from a shallow bowl, and beautiful water lilies.[120] They all tell us about the complexities of life involving both agrarian and urban vocations of village and city life.

Agriculture in early Medieval art

Early medieval period is famous for its temple art and associated sculptures. This phase of art contains numerous scenes shedding light on horticulture, fruits, dairy-farming, irrigation techniques and ploughing the field. From Bhubaneshwar, Orissa, in the Lingaraja temple, a scene has been discovered where Yashoda is shown churning butter (Fig. 35). She is standing holding the cords to rotate the churner to bring out butter in the pot. An infant

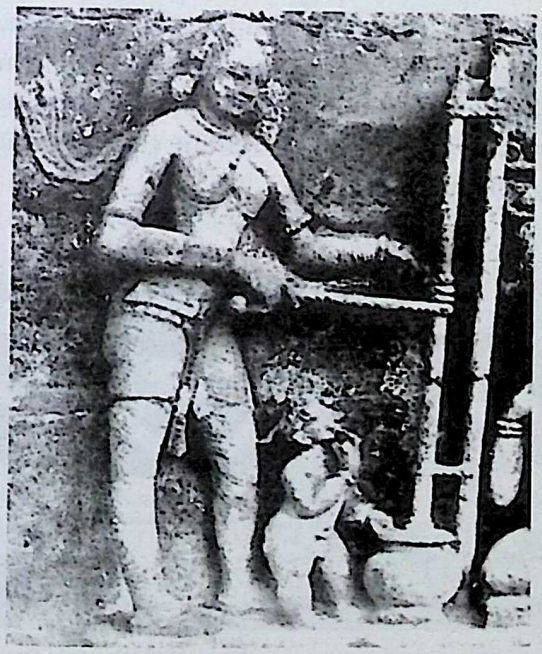

Fig. 35: Yashoda churning Butter

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Krishna is depicted eating the butter from the pot.[121] This scene suggests the practice of cattle breeding and dairy farming for gaining milk, butter and other dairy products. Another important art-evidence relating to irrigation technique has come from Mandor, Rajasthan, belonging to eleventh century AD. The panel on the north side of topmost terrace of shrine depicts a Persian wheel being turned. A wheel with a chain of terracotta buckets/jars is shown mounted on the wheel (Fig. 36). A Persian wheel was moved through a gearing mechanism which, according to Irfan Habib, is absent in this panel. But Randhawa and others believe it to be a profile depiction; hence, the gearing mechanism is not shown. The controversy regarding it being a manually worked wheel or a true mechanically moved Persian wheel is too deep to be solved in the absence of earlier art-evidences. But this panel clearly shows the use of wheel carrying a chain of pots for irrigating the land—a practice still prevalent in some parts of India.[122] Randhawa has also reproduced an interesting illustration from Borobuddur, Java (eighth century AD). This panel depicts a ploughman tilling the land with his plough with the help of two bulls.[123] The plough resembles the indigenous variety of Indian plough being used from the earliest times. At Mahabalipuram, in one of the panels of Krishan Mandapa, Krishna is portrayed as milking a cow. The calf and a lady are shown standing in front of the cow.[124]

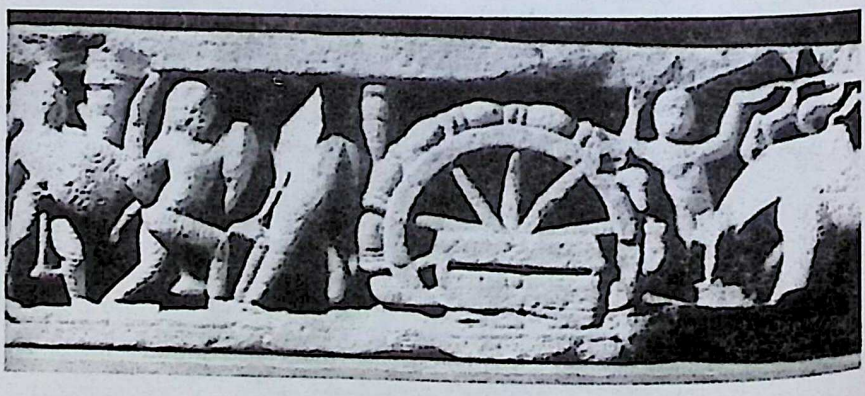

Fig. 36: Persian wheel irrigation

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Most of the temple sculptures portray a variety of fruits, trees, flowers and animals which could be taken as shedding light on horticulture and husbandry. A Siva temple at Durga, M.P. belonging to thirteenth century AD has a beautiful panel depicting Matrikas with different fruit trees.[125] A panel of Lakshmi-Narayana riding their divine *Vahan Garuda* shows a beautiful tree in a highly stylized scroll form, from which bunch of mango fruits are suspended.[126] This panel is kept in the National Museum and has come from Halebid, Hassan district, Karnataka (twelfth century AD). At Amritpur (Chikmaglur, Karnataka), from the famous twelfth century AD Amriteshvara temple, a scene from Krishna's life, is also depicted. The scene refers to the episode where Yashoda tied Krishna with a cord to a mortar which was attached to the tree. A highly stylized tree is portrayed at the centre of the panel. The mortar is of an hour-glass shape.[127] The scene is suggestive of a typical village life. In one of the intricate panels of Hoysaleshwara temple, Halebid, Karnataka (twelfth century AD), the episode of Govardhana hill is portrayed with all the nuances of a village life (Fig. 37). In the foreground, cattle—bulls and cows—are depicted on either side of the majestic central figure of Lord Krishna. In the middle, villagers are depicted along with their implements used in daily life. The hill is depicted with thick forests, creepers, snakes, birds and other creatures. The whole scene is alive with the dramatic movement and excitement of the divine event.[128]

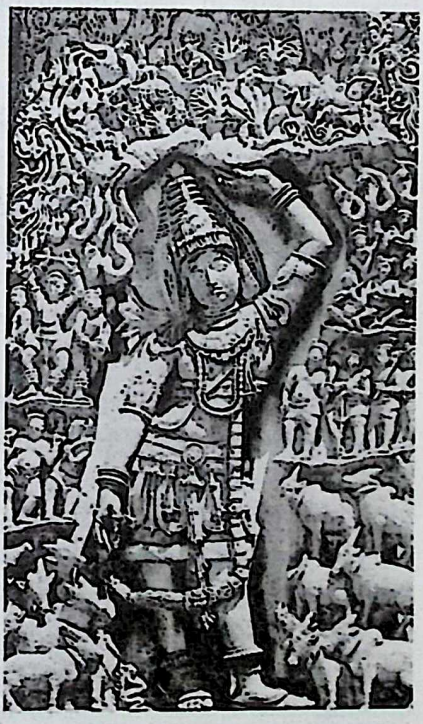

Fig. 37: Govardhana Hill, Halebid

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Fruits and trees are depicted in various contexts on temple art. The Kadamba tree, with its globular fruits is often depicted in Krishna legends in the context of *Vastraharana* episodes. Brihadeshwara temple, Thanjavur (ninth-tenth AD) has a beautiful depiction of the *vastraharana* episode where Krishna is sitting on the Kadamba tree and the *gopis* are standing below, pleading for the return of their clothes.[129]

Plantain or banana plants were cultivated in India from very early times. Religious rituals and Śāstric tradition describe it as highly auspicious plant, particularly, for marriage ceremonies. Banana fruit is considered to be a symbol of fertility and good luck. Its plant is associated with Vishnu and Lakshmi. There is a beautiful depiction of banana plantation on Airavateshwar temple at Darasuram, Tamil Nadu (twelfth century AD). The panel is divided in three horizontal rows. In the lowermost row, holy men are depicted sitting under banana plants in deep meditation. In the central row, they are standing in different Yogic postures. The upper panel has the depiction of a royal figure along with attendants carrying flywhisks and umbrellas.[130] The Jambukeshwar temple at Tiruchirapalli has a highly stylized form of a banana plant depicted with a bunch of banana fruits.[131] At Pattadakal, Karnataka, in one of the panels, Shakuntala and Dushyanta are depicted meeting under a banana plant in the forest.[132]

The most interesting depiction from the point of agriculture seems to be the depiction of corn or maize. The origin of this plant is rooted in controversy. Seven thousand years-old fossilised maize pollen have been discovered from Mexico. The Asiatic origin of Maize is linked with the regions of Assam, Meghalaya, Manipur, etc.[133] Various Hindu and Jaina deities on Karnataka temples are shown carrying a corn cob in their hands. The famous Chenna Keshava temple, Belur, Karnataka has many such depictions.[134] On the Lakshmi Narasimha temple, Nuggehalli, Karnataka, the eight-armed dancing Vishnu in his female form of Mohini is shown as holding a corn cob in one of its left hands. In the Trikuta Basti Mukhamandapa at Shravanabelagola, Karnataka (twelfth century AD), there is a unique depiction of Ambika Kushmandini, sitting on

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a lotus seat under a canopy of mangoes, holding a corn cob in her left hand.[135] All these temples belong to twelfth-fourteenth century AD. Thus these art-evidences throw significant light on the agriculture of Maize crop.

According to Gupta 'except in Khajuraho temples and Sanchi Stupas the author has not seen coconut motif on the temples of the north'.[136] In the ninth century. Nageshvaram temple, Kumbakonam, Tamil Nadu, the vase of plenty has been shown with a coconut fruit covering its mouth. Jambukeshwar temple, Tiruchirapalli (seventeenth century AD) has a beautiful depiction of Vishwamitra besides two coconut trees having large pinnate leaves and globular fruits.[137] On Sri Viswa Brahma temple, Alampur, Andhra Pradesh (eighth-ninth century AD), two females are portrayed flanked by two coconut trees.[138] All these depictions of coconuts in south Indian temples suggest the important economic and religious value of this fruit in the horticultural life of this region. Pomegranate fruits are not sculpted frequently in Indian art. A statue of Tara, Sarnath is shown holding a pomegranate fruit in her left hand.[139] In Venkatachalapati temple of Vishnu, at Krishnapuram, Tirunelveli (sixteenth century AD), an *Apsara* has been shown holding a pomegranate fruit in her left hand. She has been depicted in a dancing posture of Bharatanatyam.[140] Brinjal motif is found on Saiva temples only. A single fruit of brinjal is sculpted on the pillar of Nataraja temple, Chidambaram, Tamil Nadu. In the seventeenth century Jambukeshwar temple, Tiruchirapalli, an entire brinjal plant has been sculpted along with flowers, fruits, leaves.[141]

Sugarcane depictions are found only on Saiva temples of Tamil Nadu and Karnataka regions. Occasionally, Vaishnava temples also depict it. For example, on Lakshmi-Narasimha temple, Nuggehalli, Karnataka, Kamadeva is sculpted with his bow of sugarcane.[142] In the Jambukeshwar temple, Tiruchirapalli, Kamadeva is depicted carrying a Sugarcane bow and five arrows, riding his mount, the parrot.[143] On Airavateshwar temple, Darasuram (twelfth century AD), plantation of sugarcane is sculpted in a realistic manner. On the same temple Kamadeva is shown with his bow of sugarcane.[144] Betel vine is depicted on Meenakshi temple, Madura and Sri Lakshmi

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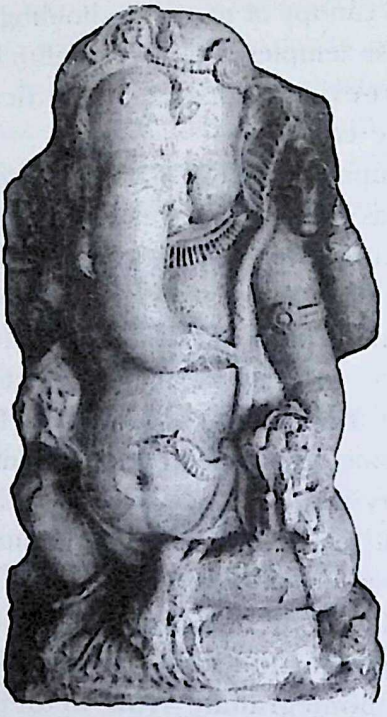

Fig. 38: Lord Ganesha holding Modaka-bowl

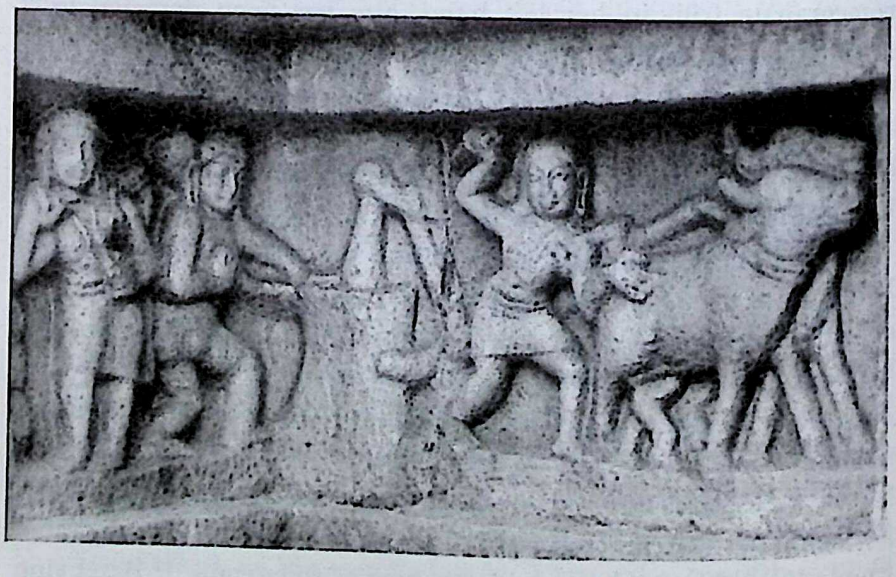

Fig. 39: Oilseed-press, Darasuram Temple

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Narasimha temple, Namakkal, Tamil Nadu as a decorative design.[145] Temple sculptures are a veritable storehouse of flora and fauna. Numerous depictions of Asoka, Sala, Kadamba, Champa, Vata, Palasha trees, lotus flowers, scrolls, creepers, etc., along with deer, elephants, bulls, cows, sheep, lion, tiger, horse, buffaloes, goat, geese, parrots, peacocks, hen, dove, etc., create the entire ecology of ancient times where agriculture, horticulture, dairy farming, husbandry, forestry founded the backbone of society. Lord Ganesha depicted with modaka (Fig. 38) or his favourite sweet indirectly throws light on agriculture and related food habits.[146]

There is an interesting sculpture of oilseed processing in the twelfth century AD Darasuram temple in Tamil Nadu (Fig. 39). There are three terms in Indian languages for oilpress—*ghani, kolhu* and *ckekku*—all derivatives from early Sanskrit words for crushing devices.[147] The panel depicted on Darasuram temple shows a device whose loadbeam is drawn by bulls. A pestle rotating in a mortar is attached with the loadbeam.[148] Panini has described this device as *thaila-peshana-yantra.*[149] A sugarcane crushing Kolhu has been represented (Fig. 40) on a Jaina manuscript of AD. 1540.[150] Achaya has reproduced a scene from the Chandigarh Museum where

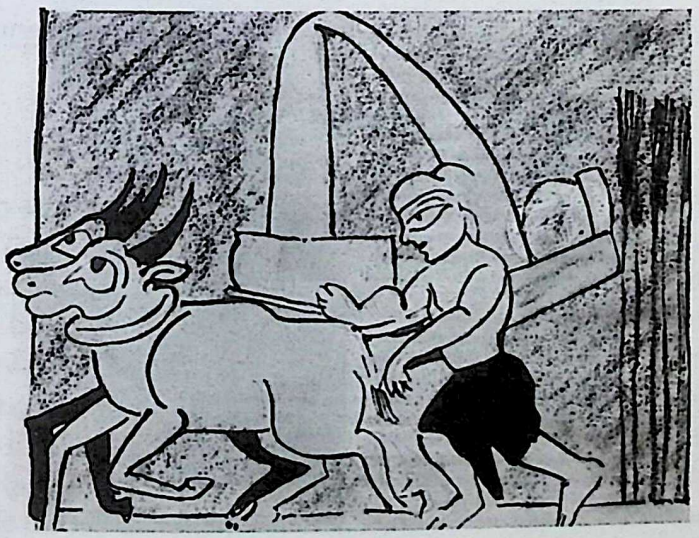

Fig. 40: Sugarcane crushing scene, Jaina manuscript

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Krishna and Balarama are shown eating (Fig. 41) with their friends in a picnic, using cups and plates made of Palasha leaves.[151] On a eighteenth century AD. Damodar temple at Kayanpur, Howrah, women are shown husking rice (Fig. 42) and using the *Dhenki* device.[152] From Ajanta Cave 1, we find an interesting scene of women ginning with cotton and scutching with roller-and-board.[153] In Bharat Kala Bhawan there is an illustration from Mirgavat (sixteenth

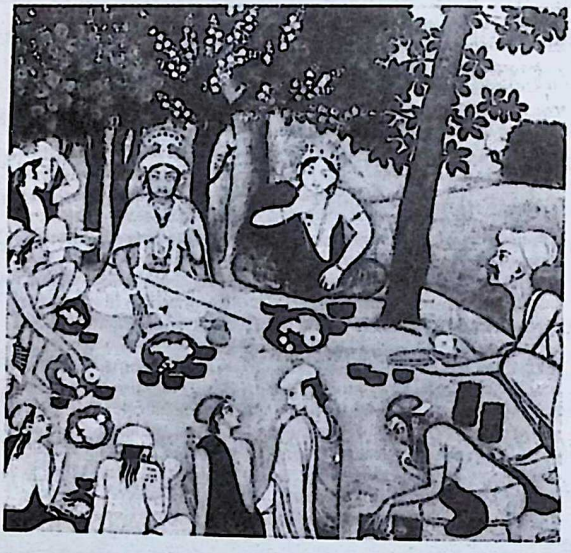

Fig. 41: Krishna-Balarama eating scene, Chandigarh Museum

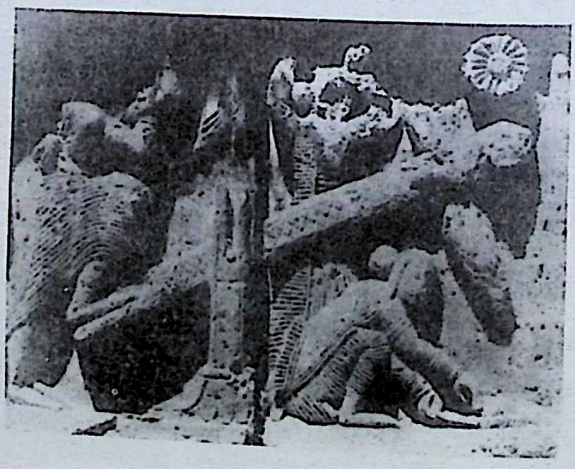

Fig. 42: Women dehusking paddy, Damodar Temple, Howrah

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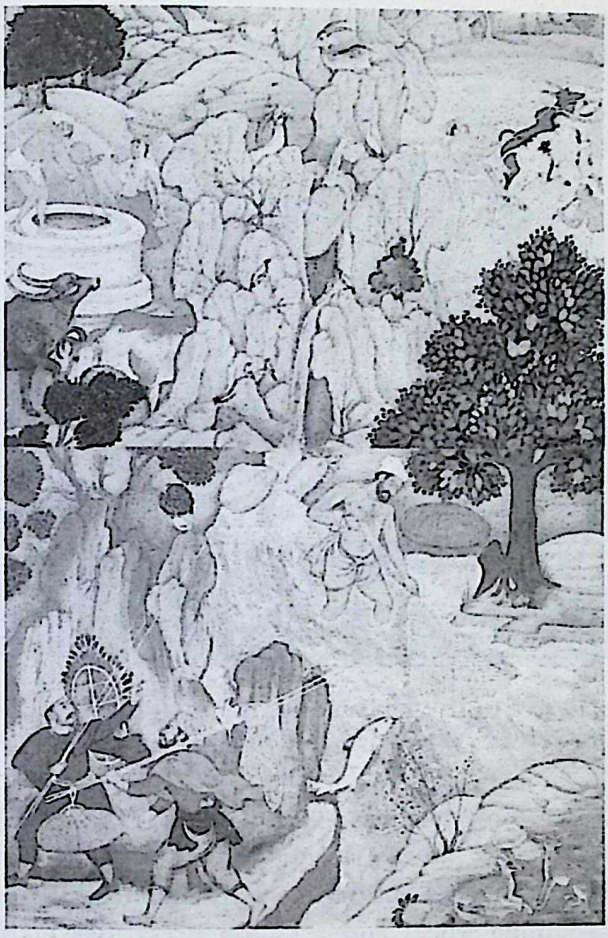

Fig. 43: Country scene depicted in *'Anwari-i-Suhaili'*

century AD), where a peasant is depicted irrigating the land.[154] A scene from *Tarikh-i-Alfi* (sixteenth century AD), kept in British Museum, London shows a farmer using *Pata* to smoothen the soil with the help of two bulls.[155] In Bharat Kala Bhawan, Varanasi, there is a beautiful country scene from the sixteenth-century *Anwar-i-Suhaili.* Waterman is taking water from the well, cows and buffaloes are seen nearby, across the hill and water creek, a farmer is ploughing his field with the help of plough and two bulls, another farmer is standing carrying a spade on his shoulder, fisherman and bird-trappers are engaged in their works (Fig. 43). The whole scene is vibrating with village life.[156]

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Fig. 44: Gokul to Vrindavana-Painting, National Museum, New Delhi

An eighteenth-century painting kept in the National Museum, New Delhi, depicts people moving from Gokul to Vrindavan (Fig. 44). Among cattle, archers, bullock carts, womenfolk are depicted carrying a spinning wheel and a cotton press. Baskets, churners, pitchers and spades are shown as routine items. This art-evidence shows that agricultural, horticultural and animal husbandry, and dairy farming were the major activities of village life.[157]

Art-evidences, thus, throw significant light on the history of agriculture, horticulture, hunting, fishing, husbandry, cooking and other related domestic chores.

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Rita Chaudhuri

Agriculture as Known from *Khanā's Vacanas*

Introduction

"Blessed is agriculture, holy is agriculture and agriculture is the life of creatures," this statement in the *Kṛṣi-Parāśara*,[1] echoes the sentiments of generations of Indians who resorted to cultivation, with the transition of life from a nomadic stage to a more settled existence. Nature's bounties, coupled with the ingenuity of our ancient ancestors, have enabled India to build up a sound, agrarian system, features of which exist even today as some of our important legacies of the past.

Perhaps, the greatest contribution made by the River Ganges in moulding the destiny of Indian civilisation was the creation of the broad belt of alluvial plains which skirts the Himalayan foothills and is bounded on the west by the semi-arid Punjab and Rajasthan plains, on the southeast, by the Bay of Bengal and on the south by the Central highlands. Endowed by nature with all the prerequisites conducive to human settlement and ranked amongst the world's most productive regions, the great northern plains as it is geographically designated, nurtured the growth and subsequent flourishing of Indian culture. Especially, in the lower reaches of the Ganges delta, which cover a major portion of southern Bengal, "the traveller passes through a wide area of crop producing land broken by clustering groves of mango, tamarind and other trees, giving

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place gradually to long lines and avenues of palms, bordering the fresh verdure of irrigated rice fields".[2]

It is indeed surprising that in a country like India, there should be a dearth of ancient works bearing on agriculture and agricultural operations. Countless such references are to be found scattered in various works starting from the *Ṛgveda.* Unfortunately, specialized works on the subject are rare. The *Kṛṣi-Parāśara,* as mentioned above, is the only work in Sanskrit, hitherto known, devoted exclusively to various aspects of agricultural pursuits. The work entitled *Kṛṣi-śāsana* is merely a compilation of passages culled from different sources, referring to agriculture. The practical value of the *Kṛṣi-śāstra*[3] is negated by the fact that it deals only with the time suitable for some of the items of agricultural operations.

By itself not an exhaustive work, a major part of he *Kṛṣi-Parāśara,* bears a striking affinity with the agricultural proverbs popular all over India. In Bengal, such a collection goes by the name of *Khanār Vacan.*[4] Incidentally, identical ideas expressed in the two works, regarding certain customs, superstitions and other aspects of agriculture, along with certain philological affinities, has led Dr. S.C. Banerji[5] to tentatively postulate a Bengali provenance for the *Kṛṣi-Parāśara.* He is, however, aware of the fact that there is no conclusive proof and that it would be feasible to conclude that both originated in northern India, wherein the fields were extensively cultivated, particularly in Bengal, from very early times.

In seeking to trace the rudimentary beginnings of village life based on agriculture in Bengal, it is reasonable to accept Dr. S.K. Chatterjee's contention, that the pioneers were the Austric tribes of India, who generated the process in the pre-historic period. They brought with them a primitive system of agriculture in which a digging stick was employed to till the hillside. Terrace cultivation of rice on hills and plains cultivation of the same were, in all likelihood, introduced by them. They brought, as the names of their language would suggest, the cultivation of the coconut (*nārikela*), the plantain (*kadalā*), the betel vine (*tāmbula*), the betel nut (*guvāka*), probably also turmeric (*haridra*) and ginger (*śriṅgavera*) and some vegetables like the brinjal (*vatingana*) and the pumpkin

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(*alābu*).[6] Interestingly, all these crops are widely cultivated in various parts of Bengal even today. It must be remembered that the rural folk in India had always been more or less ignorant of the science but proficient in the art of agriculture. They reposed a great deal of faith on traditions—oral or otherwise—which provided them with a set of systematic rules to follow. Herein lies the importance of such literary compositions as the *Khanār Vacan*. Written in a language understandable to the masses, and consisting of short rhyming sentences, easy to memorize, it embodies the experience of ages. Manifesting a keen observation of nature and a strong bond with the soil of Bengal, it is still regarded as an indispensable manual for domestic and agricultural purposes.

The identity of the lady named *Khanā*, who has so endeared herself to the masses, is shrouded in mystery, being submerged in innumerable dubious traditions. Scholars have suggested that the name is derived from the fact that the sayings deal with *kshana* or right time for performing a particular kind of activity, including agricultural operations.[7] Popularly, she is often considered to be the daughter-in-law of Varāhamihira, who was a prodigy in astronomy in the days of King Vikramāditya (c. 380–413 AD) of Ujjayini. In fact, some Sanskrit formulae in the *Bṛhat Saṁhitā* of Varahamihira, though applicable in general to conditions prevalent anywhere in India, are very similar to some of the Bengali sayings of *Khanā*. However, the very fact that the latter deals with subjects exclusively concerned with Bengal and is composed in the Bengali language, disputes the contention that *Khanā* could have been a native of anywhere else except for Bengal.

Dr. D.C. Sen[8] draws our attention to the village of Deuli, some miles to the east of Barasat in Bengal, where many legends about Khanā and her proficiency in agriculture and astronomy are prevalent. Herein can be witnessed the ruins of what was once the kingdom of Rājā Chandraketu, known as Chandrapur. A little further to the west of the now dilapidated palace can be witnessed a mound of earth, full of antiquarian remains, which is reputed among locals to have been the place where *Khanā* and her husband Mihira once resided. The coincidence of similar names and their

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association with astronomy may have culminated at a later age in this Khanā being identified with an actual or fabled heroine associated with the court of Vikramāditya. There are scholars who consider her to be a mythical person; rather a personification of the sayings.[9]

Superstitions and obscure traditions have made it difficult to unveil the truth. It is reasonable to conclude that the people of Bengal have, through the ages, contributed to these aphorisms, which now pass under the name of Khanā. However, though simplified and altered, the presence of old and antiquated forms of expressions in it, remind us that the sayings must be traced to an early age. Prof. Sen assigns it to the pre-Muhammadan period, preferably between 800–1200 AD.[10] The subjects treated in the work cover a varied field but by far the greater portion of them is devoted to agricultural matters, a discussion of which will now be made under specific categories. It is necessary to remember in this context, that no single compilation contain all the *Vacanas* of *Khanā.* Various editions ascribe to her the authorship of different verses, which, moreover, often render the same verse with slight variations. Consequently, for an overall picture, it is necessary to consult not only various editions of the text, but other relevant literary sources.

Soil

All cultivable land are not fit for producing every kind of crop. It should be remembered that though the soil of Bengal is essentially alluvial, its natural composition differs a great deal in various regions, depending on the working of natural forces (rainwater, rivers, wind), the action of soil organisms and the interaction of various chemical substances present in the soil. The oldest classification of arable lands were simply into those in which crops had to depend entirely on rainfall (*devamātrikā*) and those which were inundated by or could be irrigated from rivers (*nadimātrikā*) Later texts, however, reveal a profound knowledge of the varied nature of the soil (as to whether it was sandy, clayey or loamy) and the kinds of crops that could be grown on each specific type. Thus, addressing

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herself to the son of ploughman, Khanā advises them to plant patol (*Trichosanthes dioica*) in a sandy soil for the fulfilment of their expectations:

Śunre bāpu cāṣār beṭā
māṭir madhye bele (sandy) yeṭā
tāte yadi bunisa patol
tātei tor āśār saphal[11]

The sandy banks of rivers with silt deposits are ideal for the cultivation of Āuś paddy (*oryza sativa*), while the soil for jute (*corchorus capsularis* and *C. olitorius*) should be clayey[12] (*āṭāle*). The cultivation of radish (*mūlā-raphanus sativus*) requires a soft and fine-textured soil (*tūlā*), while that of sugarcane (*saccharum officinarum*) should contain lime (*calcium*)[13] . Tobacco (*Nicotiana tabacum*) flourishes on soil which is loosened and grounded before the seedlings are planted,[14] presumably an indication of the coarse, gravelly nature of the soil. Coconut trees (*cocos nucifera*) planted on saline soil will bear fruit quickly.[15] *Khanā* further reveals a remarkable knowledge of a wider variety of crops, grown under the influence of other congenial conditions, on her native soil. This will be dealt with subsequently in this chapter. It will suffice here to observe that the text provides the reader with a panoramic view of a land, fertile and well-cultivated, corroboration of which is to be had from the works of writers from Bengal and outside.

'A low and moist country', wherein 'crops ere abundant' and farming operations were regular' is how Hiuen Tsang describes Bengal, as he saw it in the seventh century AD.[16] Varendri (north Bengal), according to Sandhyakara Nandi[17] (second half of eleventh to first half of twelfth, AD), had "all its important regions filled up with crops and water." She was "the sparking crest level of the earth;" on account of her being adorned with, "...paddy plants of various kinds, which was further spread over by the fine bamboo clumps and which had (as additional charm) the sugarcane plants that were flourishing excellently there." This reminds us of the claims of classical writers, Vucan's claims that Indians near the Ganges used

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to quaff sweet juices from tender reeds.[18] Furthermore, Suśruta refers to a kind of sugarcane called *pauṇḍraka.*[19] Commentators agree that it was named because it was grown in the *Pauṇḍra* country, originally parts of north Bengal; during the early medieval times it came to include extensive areas stretching from the eastern side of the Bhāgirathi to Chittagong and Sylhet.

Assuming that the author of the *Kṛṣi-Parāśara*[20] was closely acquainted with conditions in Bengal, we may note here an interesting passage in the text purporting to describe the changes in the nature and productive capacity of the soil at various times of the year. Thus, it is like gold in *Māgha* (January–February), silver in *Phālguṇa* (February–March) copper in *Caitra* (March–April) and like paddy in *Vaiśākha* (April–May). The soil should be known like the soil itself in *Jyaiṣṭha* (May–June), full of mud in *Āṣāḍha* (June–July) and that (soil) which is raised by ploughs in *Srāvana* (July–August) is barren. Such statements, embodying the theory of tillage, are applied to practice by our cultivators, who traditionally follow the guidelines provided by these time-tested principles.

It is significant that the *Kṛṣi-Parāśara* speaks of barren soil, for all the soil of Bengal could not have been productive. Terms such as *jaṅgala patha,*[21] where there was no water, *avaskara-sthana,*[22] denoting refuse land and *ushara*[23] meaning sterile or barren soil, have often been used in inscriptions, found in various parts of Bengal, to describe land fit neither for cultivation nor habitation.

Weather Lore And Meteorology

Weather lore has always been popular with the masses; the more so, because the farmer's fortunes invariably depend in a large measure on the vagaries of nature. Statements like 'all agriculture has rainfall at its root' (*Vriṣṭimulā Kṛṣi Sarva*)[24] amply illustrates the fact. The author of the *Kṛṣi-Parāśara* further claims that "life too has rainfall as its source. Therefore, at the outset, one must acquire knowledge of rainfall very carefully."

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Interestingly, in Bengal, the twelve subdivisions of the year manifest varied weather conditions which exert a profound influence on the life style of the people. The *bāramāsi* or a lyrical description of the peculiar characteristics of the twelve months of the year is a favourite subject with our ancient writers. In the *Khanār Vacan*, there are frequent references to conditions of weather, especially to the effect of rainfall, occurring at different times of the year, on the prospects of paddy. The observances are given as much importance today as in the days of yore. To quote some of them: if it is dry in the month of *Jyaistha* (May-June) and there is heavy downpour in the month of *Āṣāḍha* (June-July), the earth will be burdened with crops;

Jyaiṣṭhe śukna, Āsāḍhe dhārā
dhara habe śaṣyer pasrā[25]

If there is heavy rainfall in cancer *Śrāvaṇa* (July–August), dry in Leo *Bhādra* (August-September), abundant rainfall in Virgo *Āśvīna* (September-October), and windless accompanied by a light drizzle in Libra *Kārtik* (October-November), then there will be a good harvest of paddy;

karkaṭ (cancer) charkat, siṅgha (Leo) śukā
Kanyā (Virgo) kāne kān
binā bāya varṣe Tūlā (Libra)
Kothā rākhbi dhān[26]

The following four verses appear to be more popular with the young and the old alike in Bengal who are often heard rendering them under similar weather conditions. It is, indeed, amazing as to how observances of such antiquity could have been so accurate:[27]

If it rains in the month of *Agrahāyaṇ* (November–December), the king goes begging:

Yadi vare Āgane
rājā nāmen māgane

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In other words, the country will be in dire straits, as untimely rains might harm the already ripened crops.

If it rains in the month of *Pauṣa* (December–January), money may be had even by selling the chaff:

Yadi vare Pauṣe
kaḍi (cowry) hay tuṣe

By the month of *Pauṣa*, the winter crop has been harvested, and one can be free from anxiety.

If it rains at the end of the month of *Māgha* (January–February), the king and his country become blessed;

Yadi vare Māgher śeṣa
dhanya rājār pūṇya deśa

Rainfall, in accordance with this saying, will ensure an abundant growth of various kinds of crops as the following verse indicates:

If it rains in *Phālguṇa* (February–March), the millet (*cinā- kāon panicum miliaceum*) grows abundantly;

Yadi vare Phālgune
Cinākāon hay dviguṇe

These verses reveal an inherent truth about Indian economic life—the anxious waiting and precarious dependence of the agriculturists for and on seasonal rainfall for the success of their endeavours. In fact, the most important feature of the Indian climate is the monsoon which arrives in June (*Āṣāḍha*), heralded by dark moisture-laden clouds and much thunder and lightning. Preceeding this, northern India in general, experiences a hot spell with a rapid rise in temperature to as high as 40°C in the plains. Some relief is provided by the local storms called the *Kālvaiśākhi* in Bengal (meaning calamity of the month of Vaiśākha) which is accompanied by violent winds, heavy rain and hail. It wreaks great havoc, destroying lives and damaging crops.

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The monsoon showers continue intermittently till about the month of September when the temperature gradually begins falling. The cold weather season commences early in December and extends to the end of February. Fine weather conditions are sometimes broken by cyclonic disturbances; our agriculturists usually regulate their work according to expected weather conditions and even raise a winter crop by irrigation.

However, nature is not always predictable. Unforeseen conditions occur, rendering the farmer helpless in the face of what seems to be nature's wrath. *Khanā* strongly contends that nature herself provides indications about the future that lies ahead with regard to climatic conditions and the consequent agricultural prospects. Her prophesies on inclement weather conditions such as the occurrence of storms, excessive rainfall and floods, mists, droughts, earthquakes, and plagues are obviously a result of a keen observance of the workings of the various natural phenomena and their consequences. Some of the verses may be taken into account to illustrate the point:

If a southern wind blows in the month of *Āṣāḍha* (June–July), there will be flood in that year:

Pūrna āsādhe dakhinā bāy
Sei bachare vanyā hay

It may be noted herein that people in Bengal even today regard the blowing of a southerly wind in *Āṣāḍha* as an indication of impending floods.

If in *Pauṣa* of (December–January) there be heat in the atmosphere and cold in *Vaiśākha* (April–May) in that year, heavy rainfall will commence from the first part of *Āṣāḍha* (June–July).

Pauṣe garmi vaiśākhe jādā
pratham āṣāḍhe bharbe gāḍhā

If the sky is covered by mist in *Caitra* (March–April) and there be plenty of paddy in *Bhādra* (August–September), the earth is afflicted with plague and other disasters of that sort

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Caite kuyā, Bhādre dhān.
narer munḍu gaḍāgadi yān[28]

If there is no rainfall in the months of *Śrāvaṇa* (July–August) and *Bhādra* (August–September) and if there is rainfall in the morning and the night skies are clear, then the earth will be inflicted with sorrows

Khanā bale śuno vānī
Śrāvaṇe Bhādare nāiko pāni
dine jal, rāte tārā
tabei to dukhinī dharā

A rainbow visible in the west indicates drought, while one in the east is the harbinger of rainfall;

Paścime dhanu nitya kharā
pūrve dhanu varṣe dhārā[29]

The following verse referring to dark moisture-laden clouds frequenting the skies along with other indications, heralds the advent of the monsoons.

If the clouds take the form as if cut by spade and axe and the wind blows off and on, it should be understood that rainfall will commence in a day or two. O, my peasant friend, do not waste time in such weather, but busy yourself in constructing a ridge;

Kodāle kuḍule megher gā
mājhe mājhe dicche bā (wind)
bal cāṣāre bandhte āl I
vṛṣṭi habe ājkāl[30]

Interesting too, are the verses which give indications of imminent rainfall, which the people of Bengal believe in, even today. The most common of them is the croaking of frogs.

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Byāṅ dāke ghana ghana
śighra vṛṣṭi habe jeno[31]

Moreover, if the sky is overcast in the month of *Bhādra* (August–September) and the wind blows in the opposite direction, there is a possibility of rainfall on that day.[32] *Kṛṣi-Parāśara's* claim that amongst other indications there will certainly be rainfall when 'ants rise (from their holes) with eggs as also when peacocks dance' and there is noise of crickets in the sky[33] are other methods popular with the masses in Bengal of ascertaining the possibility of rainfall either, instantaneously or in the near future, Sandhyākara Nandi, aptly described Varendrī, (north Bengal) as a country 'where large and swiftly moving clouds gave abundant rain' and where the flow of water ... 'came from large clouds'.[34] However, Varāhamihira refers to a great advancement made in the field of meteorology. He mentions the use of the rain gauge for measuring rainfall. The text further gives statistics of the quantities of rainfall in the *droṇa* measures together with carefully forecasting excessive, sufficient or scanty rainfall in the light of astronomical and meteorological data.[35]

Customs and Beliefs Regarding the Commencement of Ploughing and Other Agricultural Operations

Around the world, the agricultural cycle is hedged around with ceremonious acts directed towards furthering the powers of fertility manifest in various crops and to ensure a good harvest. *Khanā* emphasizes on the necessity of setting out to the fields for ploughing on an auspicious moment. Even to receive any disheartening news, while on the way, is considered to be an ill omen. On entering the field, the farmer should ascertain the directions and start ploughing from the east, as this would ensure a good field. Agricultural operations should be carried out by the owner of the field himself with the assistance of his son and, in the absence of the latter, by a brother of the former.[36] Probably, *Khanā* herein refers to small holdings of peasants, which were cultivated by the owner and his

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family, as is the case even today. In fact, in some inscriptions, lands owned by private individuals are mentioned in connection with the demarcation of the boundaries of donated lands.[37] Fields which were owned by cultivators themselves are generally described as *kauṭumba-kṣetras.*[38] Often the term *satka* is mentioned to convey the idea of ownership.[39]

However, there were also larger holdings, which were not farmed by the owners personally. Thus, the Āśrafpur plate of *Devakhaḍga*[40] mentions a *pāṭaka* of land enjoyed by one Sārvāntara, but cultivated by Śikhaṛa and others. Eleven *pāṭakas* of land are mentioned in the Gunāigarh plate,[41] where the owners engaged hired labour for their cultivation or let out the land to sharecroppers. Not surprisingly, we find that our law givers have prescribed certain rules to safeguard the interests of both the landowners and hired labourers. Some of our *Dharmasāstras* contain deliberations on the wages or the grain-share to be paid to the hired labourer, the care to be taken by the latter for the implements of work provided to them and the penalties to be paid for any breach of contact by both the parties.[42]

Khanā,[43] further recommends or prohibits certain days of the month, lunar days or lunar mansions (*nakṣatras*) for the commencement of ploughing, as they are considered to exert a strong influence on agricultural prospects. Thus, new moon (*amāvasyā*) and full moon days (*pūrṇimā*) are considered to be inauspicious and will only bring sorrow to the farmer. His bulls will be rendered useless, being struck with gout (bāt). Herein, perhaps, we get an indication of the concern felt by the people for the animals on whom they were dependent for their subsistence. The *Bṛhat Saṁhitā,*[44] explicitly prohibits the use of cattle for cultivation, which were lean, very old, small, diseased, apt to run away, blind of one eye or lame. Recognizing the indispensability of bulls in agricultural operations, the *Kṛṣi-Parāśara*[45] ordains great care and humane treatment towards them. Certain rites in the month of *Kārtika* (October-November) have been enjoined as they are supposed to be conducive to the health of cattle.

Khanā[46] is, however, emphatic on the fact that a person who is in possession of bulls should make use of them or else he is destined

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to suffer from despair throughout the year. In the *Amarakosa*[47], there is a reference to the idle cultivator who ploughed his field very roughly and then sowed his seed and consequently could not expect a good yield.

Khanā pronounces prognostic statements regarding the efficacy of planting seeds under the influence of certain stars and planets, a practise followed by peasants even today. Thus, she contends, that the year in which Saturn (*Śani*) is the king and Mars (*Mangal*) the minister, is not a good year for paddy[48] '...fight, storms but scanty rainfall, constant wind, disease and calamity,' are the consequences which *Kṛṣi-Parāśara*[49] apprehends, would be the outcome of such a year. Khanā recommends the year wherein Mercury (*Budha*) is the king and Venus (*śukra*) the minister as being the time for reaping a good harvest.[50] Such a year, in the opinion of the *Kṛṣi-Parāśara*[51], will be a beneficial one, there being '... freedom from disease, easy movement and easy availability of aims on the earth,' thus indicating a profitable year, free from calamities. We are reminded herein of Kauṭilya's[52] reference to the practice of forecasting the monsoons by observing the position of Venus (*śukra*) and Jupiter (*Bṛhaṣpati*) and the usual and unusual appearances of the sun.

According to Khanā, if on the seventh or eight days of the month of *Phālguna* (February–March) in either the *Śuklapakṣa* or the *Kṛṣṇapakṣa*, the moon resides in the lunar mansion (*naksatra*) of Rohini, then there is sure to be a good harvest of crops. If it is the ninth day, there will be inundation and if it is the tenth day, there will be total destruction. A failure of crops is also to be apprehended if, on the thirteenth day of the month of *Caitra* (March–April), the planet Saturn (*śani*) reigns supreme.[54]

Khanā is firm in her belief that from the arrangements of the days in a particular month, one can foretell inclement or favourable weather conditions, a theory which receives acceptance even today. Thus, it is said that a month having five Sundays will witness storms and droughts.[55] If the first day of the month of *Caitra* (March–April) is a Sunday, there will be scanty rainfall that year; if it is a Tuesday, then there will be a good amount of rainfall. Famine is forecasted

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if the first day is a Wednesday. It is good news for the growth of crops if it is either a Monday, Thursday or a Friday and a year wherein the month of *Caitra* has five Sundays, will be visited by plague, which will be fatal for man and animals:

Madhumāse (caitra) pratham divase hay yei var
Rabi śese, Mangal varse, durbhiksa Budhvar
Som, Śukra ār guruvār
pṛthvī nā say sasyabhar
pañca, Śani pāy Mīne
Śakuni maṁsa nā khāy ghṛṇe[56]

Khanā has great foreboding regarding a year in which in the month of *Bhādra* (August-September), along with rainfall there is earthquake; such a year is bound to be disastrous for the kingdom, crops and cattle as well as for all human kind:

Khanā bale śuno śuno, ogo patir pitā
Bhādra mase jaler madhye naden Vasumata
Rājyanāśa go nāśa, ār atiśay bān
hāte kāṭhā grihī phere, kinte nā pāy dhān[57]

As to the reason for choosing particular dates for specific agricultural operations, which are often accompanied by elaborate ceremonies, we do not possess adequate knowledge. However, we may be sure that they formed an indispensable part of an old agricultural calender which, given the inherent Indian love for tradition, find many faithful followers even today. Albeit, most of the observations made by Khanā, in the previous passages, are speculative and one may legitimately question their accuracy. However, one should not reject them outright, so long as they have not been tested by competent persons in the proper scientific manner. It should be remembered that the modern agriculturist, though often acquainted with the advanced techniques made in the field, prefers to depend largely on the traditional methods of their forefathers. Obviously, the time-tested manuals are used as almanacs by the farmers and are often referred to.

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Supervision

For the success of the whole process of agriculture, it is imperative that the farmer should personally involve himself and supervise the work. Khanā thus opines:

Khāṭe khāṭāy lāber gānti
tar ardhek kāndhe chati
ghare vase puche bāt
tār ghare hā bhāt[58]

One who personally toils on his fields, along with his assistants, is amply rewarded with a good profit. One who makes a leisurely visit to the fields, just to see the work being done, only gets half the profit, while a person who merely sits at home and enquires about the progress of the work will have no harvest to reap and, consequently, will have to go hungry. The *Kṛṣi-Parāśara* reiterates the view when it states that agriculture, when supervised, yields gold; when not supervised, it indeed causes poverty. The text further states that, 'A farmer doing good to cows, regularly going to fields, knowing the proper season, mindful of seeds, free from lethargy (becomes rich) with all crops and does not suffer.'[59] An excellent example of personal involvement in the work of agriculture is to be had from a passage in the *Raghuvaniśa*[60], which refers to the wives of cultivators sitting in the shade of sugarcane plants, guarding the *śāli* paddy.

Manure

Fertiliser technology appears to have had a long history in India. Ancient Indian texts referring to agriculture allude to the use of farmyard manure to enrich the soil by providing it with additional nutrients and to rejuvenate sick plants. *Khanār Vacan* provides illuminating information in this respect. However, with great foresight, she cautions against the harmful effects of fertilisers on human health:

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Mānusa mare yāte, gāchla bānce tāte
pachlā sarāy gāchlā vāḍe, gondhla diye mānuṣa māre[61]

Thus, it is said, that those things (e.g. cowdung and decayed remains of plants and animals) which injure man (as the gas that it emits is poisonous) cure the plants. This verse, however, makes it obvious that Khanā recommends the use of indigenous methods of providing the soil with manure, which will not be difficult for the Indian farmer to procure. Thus, in accordance with her advice, 'if the water in which fish is washed is poured at the root of a bottle gourd (*lāu-lagenaria sicearia*) plant, it will be strengthened;' 'the land which contains rotten paddy as manure is fit for the rearing of chillis (*Jhāl-laṅkā-capsicum annuum*); the smut of corn (paddy) should be thrown into the bamboo grove (*bānśa-bambusa tulda*). If one does so near the root of the shrubs, they will soon cover two *Kuḍas* of land' (174 cubits square); 'Earth should also be thrown beneath a bamboo grove to serve the purpose of land manure'; 'betelnut plains (*śupari–Areca catechu*) require cowdung manure for their growth'; pieces of rotten straw or chips of wood should be used as manure at the roots of arums (*ola - amorphophallus campanulatus*); and 'edible arums (*mankacu-alocasia indica*) will thrive if ashes are used at their roots'; 'toro (*Kacu-colocasia esculenta*) too flourishes; when ash is used as fertiliser and when it is planted by the riverside'; 'Along with areca-nut trees (*śupari*), the coral tree (*māndār-erythrina variegata*) should be grown in the same plantation, as the leaves of the latter, falling at the root of the former, enable it to grow faster'; 'Coconut palms (*nārikel-cocos nucifera*) flourishes well when the smut of corn is used as fertiliser'; 'potatoes (āloo-solanum tuberosum) should be planted in a bamboo grove'—this will enable it to thrive.[62] Obviously, all these were a result of experimentation over a period of time with things easily available at hand viz. cowdung and organic refuses—to make up for soil deficiency. It is indeed heartening to realize that our ancient ancestors were successful in ensuring for the peasant farmer for times to come, inexpensive means to achieve better crop production.

The *Kṛṣi-Parāśara* too recognizes the usefulness of the use of manure for crops. It clearly states that without manure, 'the paddy

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plants grow up bereft of fruits.'[63] Cowdung, as a manure has been highly extolled in the text. The *Arthasastra,* too mentions the manuring of cotton trees with bones and cowdung.[64] The use of similar ingredients as fertilisers has been mentioned in other ancient texts referring to agriculture.[65]

Conditions influencing Agriculture and Certain Rules to be Followed while Planting various Crops

Certain specific natural conditions, influence the growth of crops and enable them to flourish. To illustrate the point, we quote some of Khanā's sayings:

... paddy thrives in the sun and the betel (pan-piper betel) in the shade

Khanā deke bole yān
Rode dhān, chāyāy pān

If the paddy gets profuse sunshine by day and showers by night, it rapidly develops. Khanā says the drizzling rain in the month of *Kārtik* does immense good to paddy.[66]

Dine roda, rāte jal
Tāte vāḍe dhāner bal
kārtiker uṇa jale
Khanā bale duno phale.

Khanā further advocates certain rules of agriculture which, if followed by the farmer, leads to the healthy growth of trees and plants. Thus she says:

Dātār nārikela, vakhiler baṁśa
kame nā vāḍe nā vāro māsa

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The fruits of a coconut palm belonging to a generous person do not decrease, just as the bamboos in a grove of a miserly person do not grow.[67] The idea inherent here is that a wise man will never let his trees to be overburdened with fruits, for fear that they will lack nourishment. So he will pluck some from time to time and give them away. Likewise, if a person does not allow his bamboos to be cut, he will not profit, as bamboos grow faster when cut frequently. The same principle is applicable to the following:

Hemp (*śoṇ-crotalaria juncea*) should be cut when it flowers. Jute grows faster when the tree is cut:

Hale phul kāto śon
gāch kāṭle pāṭ dviguṇ[68]

Khanā offers interesting advice on the spacing of various kinds of trees which are indispensable for their healthy growth. Thus: 'sow the seeds of mustard (*sariṣā-Brassica campestris*) and those of rye (*sinapis ramose*) at some distance from one another. Cotton plants (*Kāpās-gossypium sp.*) should be put at the distance of a leap from one another and jute (*pāt-corchorus capsularis* and *C. Olitorius*) should by no means be planted near them, for cotton plants will perish if they come in contact with water from the jute field'.[69]

Regarding the cultivation of 'Āuś' paddy, Khanā states that 'the grains are to be planted at some distance from one another to ensure a thick growth and, consequently, Goddess Lakshmī will reside therein'. In other words, the farmer can expect a good profit from a rich harvest:

Kol pātlā dāgar guchi
Laksmī bale hethāy āchi[70]

In fact, the seedlings of paddy are usually planted 15–23 cm apart, in small bunches of three to five, or even singly. Sometimes, however, they are planted in large bunches of fifteen or so in flooded areas.

A similar set of rules has been ordained for the cultivation of fruit trees. Thus, 'if you want better fruits you have to plant coconut plants

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twelve cubits (approx.18 ft,) and betel-nut palms eight cubits (approx.12 ft) apart and if they are not planted according to principle, you have to reduce them.'

Nārikela vāro, śupāri āta
era ghana takhani kāṭo[71]

It may be mentioned herein that this spacing is popular in Bengal even today.

Mango (*ām-mangifera indica*) as well as jackfruit trees (*kānthal-artocarpus heterophyllus*) should be planted at a distance of 20 cubits from each other. A dense growth is unfavourable for the growth of fruits. If there is no rain in the month of *Agrahāyana* (November and December), jackfruit trees do not bear fruit.[72]

Plantain trees (*kalā-Musa paradisiaca*) should be planted at a distance of seven cubits from each other. As even the leaves of the plantain are useful, it is explicitly forbidden to cut them, for it will provide food and clothing for the family.[73]

Regarding Palmyra trees (*tāl-Borassus flabellifer*), Khanā says that planted by one generation and tended with care by the next, this tree will bear in the third generation. If the tree and its leaves have not been chewed by a cow, it will bear fruit in twelve years.[74] The usefulness of the palmyra tree has been recognized through the ages. In ancient times, its leaves were used as writing materials. Among the Bengal peasants, its fermented juice is popularly known as *tādi*, which is an intoxicating drink.

The wide cultivation of some of the fruits mentioned above is attested to by a large number of Pala and Sena inscriptions, besides ancient texts. The Āshrafpur Grant of Devakhaḍga states that the donee should enjoy the land donated to him after cultivating betel-nut palms and coconut trees.[75] A mango track, forming the boundary of a village is referred to in an inscription from Bengal.[76] Amongst the constituent elements of a donated plot mentioned in the Candravati plate of Candradeva[77] (Samvat 1148) are '.... groves of madhuka and mango trees ...' The plantain tree is frequently depicted in he Paharpur terracotta plaques (Paharpur, 70). It also

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occurs in such sculptures as the Caṇḍi images of the Rājshāhi museum.[78]

Agricultural Practices and Crops Grown

We may now attempt to form a comprehensive picture of the actual practice of agriculture as prevalent in Bengal and conveyed by the sayings of Khanā. For agriculture to be successful, the fields have to be made ready by ploughing and cross ploughings. The time taken for this varies with the type of crop to be cultivated. Thus, it will take sixteen days for raddish, eight days for cotton and four days for paddy. However, the cultivation of betel does not require any elaborate preparation:

ṣola cāse mūlā
tār ādhā tūlā
tār ādhā dhān
binā cāṣe pān[79]

Rice

Rice (*oryza sativa*) cultivation seems to have been popular all along the Gangetic plains, with the cultivators being conversant with a varied type of the food crop. The inscriptions of the Sena kings refer to 'smooth fields growing excellent paddy.'[80] The Anulia copper plate of Lakṣmaṇa Sena refers to the gift of myriads of villages, consisting of land growing paddy in excessive quantities.[81] The Rājavāḍi (Bhāwāl) plate of Lakṣmaṇa Sena[82] describes the capital (dharyya-grama) as a place where '... the thrill of victory (prosperity) of the earth is expressed in the guise of (shivering) corn (paddy) plants....'

Khanā is of the opinion that for the sowing of seeds of paddy, *Vaiśākha* (April–May) is the best month.

Vaisākher pratham jale
āus dhān dugun phale

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Āuś paddy thrives well when seeds are planted with the first showers of *Vaiśākha*[83]. Agreeing with this statement, the *Kṛṣi-Parāśara* further claims that for sowing, *Jyaistha* (May–June) is tolerable, *Āṣāḍha* (June–July) is bad and *Śrāvaṇa* (July-August) is the worst.[84]

However, it must be remembered that the Greek writers had earlier claimed that India has a double rainfall and that Indians generally gather two harvests[85]. The *Brhat Saṁhitā* speaks of summer crops, autumnal crops and vernal crops.[86]

Khanā too refers to two kinds of paddy—Āuś, which ripens in the rainy season, and *śāli*, which can be harvested in winter. She, thus, professes knowledge of both a khārif and a rabi crop. This is reinforced by the fact that besides speaking of the beneficiary effects of rain in summer, she claims;

Māgha māse varṣe debā
rājā chāḍe prajār seva[87]

If it rains in the month of *Māgha*, the rabi crops thrive and the king need not have any apprehension regarding the future of his subjects.

Another class of rice is known to have been grown in Bengal. In the Maināmati plates of the Candra Kings[88] occur such names of villages as Bālesvara-varddaki voraka and Brāhmana-deva-voraka grama. The work *Voraka* seems to be akin to the Bengali word *boro* which essentially means a sort of rice sown on low swampy ground or near the bank of rivers. In all probability, the term denotes land fit for boro cultivation. Two croppings of this is even now practised in Bengal—*kharif* or rain crop sown in *Āṣāḍha* and harvested in *Āśvina* and *rabi* or winter crop sown in *Kārtika* and harvested in *Caitra*. Apparently, even in the ancient period, rice was grown in some form or another throughout the year.

In Bengal, both the systems of sowing seeds directly into the soil and of growing rice in nursery beds and replanting seedlings in flooded fields were known. The *Raghuvaṁśa*[89] of Kālidasa affords us a glimpse into this method of rice cultivation. Describing Ragnu's

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conquest of the Vaṅgas, the poet remarks that the conqueror uprooted and replanted them (*utkhāta pratiropita*) like rice plants. Peasants are further referred to as replanting the seedlings of *śāli* paddy. It is for this specific purpose that Khanā advises agriculturists to prepare the fields by buildings ridges around them in order to preserve rainwater:

Āge bāndhi āli
Ropa tāte śāli[90]

The *Kṛṣi-Parāśara*[91] emphasizes on the need of releasing excess water in the month of *Bhādra*, through an outlet made in the field. Only as much water as is necessary for dipping the roots of plants should be allowed to remain; otherwise the plant will be inflicted with diseases.

The seasons for transplantation have also been identified by Khanā, thus:

Vaiśākha vona, Āṣādhi royā
Jaygā nā hay dhān thoyā[92]

Āuś paddy sowed in the month of *Vaiśākha* (April–May) should be transplanted in *Āṣāḍha* (June–July). This will yield such an excessive harvest that there will not be enough place to store the grain.

For other seasonal varieties, the time for transplantation was between the month of *Śrāvana* (July–August) and the twelfth day of *Bhādra* (August–September):

Śrāvaner puro, Bhādrer vāro
roo er madhye yata pāro[93]

According to *Kṛṣi-Parāśara*,[94] seedlings transplanted in *Śrāvana* should be one cubit apart from one another; in *Bhādra*, half a cubit, and in *Āśvīna*, they should be four fingers apart *Ropoṇa* is forbidden in lowlands.

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Kaṭṭana of Paddy

For *kaṭṭana* or 'thinning out' and levelling the field after the seeds have sprouted, the months of *Āṣāḍha* (June–July) and *Śrāvana* (July–August) are the most suitable:

Āṣāḍhe kāḍan nāmke
Sravane kadan dhanke
Bhādre kādān śīṣke
Āśvīne kādān kiske[95]

The *Kṛṣi-Parāśara* warns that the paddy of which *kattana* has not been done remains like seeds[96]. Both the texts agree that there is indifferent and poor growth of paddy in the absence of *kattana.*

Weeding

Khanā ordains that the period extending from the month of *Āṣāḍha* (June-July) to *Bhadra* (August–September) is the best time for the removal of weeds from the soil[97]. Confirming this, the *Kṛṣi-Parāśara*[98], cautions that 'agriculture suffers loss due to weeds'. Conversely, 'the agricultural produce from which weeds are removed becomes wish yielding to cultivators'.

Harvesting

Some of the sayings of Khanā enable the lay reader to trace the gradual growth of the paddy plant till it is ready to be harvested:

Thor tirise, phulo bise
ghoda mukhe tera din
sisa dekhe bisadin
kātte Māḍte daśdin[99]

Thirty days after being planted the seeds begin to sprout. The stalks that appear begin to flower, twenty days thereafter. Gradually,

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the pannicle of spikelets, constituting a paddy plant, comes to resemble the head of a horse. After a lapse of twenty days thereafter, it is time to reap and thresh the corn. This will take at least ten days time. The *Rāmacarita*[100] refers to the threshing floor, where the 'reaped crops were spread out and threshed by means of bullocks that went round and round over them'. The *Kṛṣi-Parāśara* recommends an elaborate ceremony called "*pusyayātra*" in *Pauṣa* (December–January) before the harvesting of obviously, the winter crop. Thereafter, having harvested the crop, one should store it in granaries and worship the Goddess of Wealth.[101]

The aphorisms of Khanā, make it apparent that the farmers were well acquainted with the fact, that weather and soil conditions in Bengal, permitted the growth of many other kinds of crops, besides paddy. Thus the seeds of Brinjal (*Begoon-Solanum melongena*) could be sown throughout the year, except for the months of *Caitra* (March–April) and *Vaiśākha* whilst *Vaiśākha* and *Jyaistha* (May–June) were suitable for the cultivation of turmeric (*Halood-Curcuma longa*).[102]

It was believed that Betel (*Pan-piper betel*) cultivated in the month of Śrāvana (July–August) yielded a good harvest. However, the crop needed three years to mature.[103] Interestingly, *barajas* or betel-leaf plantations, yielding a high revenue are included within the confines of a donated plot as recorded in the Calcutta Sahitya Parishat copper plate of Visvarupasena.[104] An image inscription[105] attest to the fact, that in the villages of Pāikpārā and Betkā, lived a class of people known as 'Barai' who derived great wealth from the sale of betel-leaf cultivated by them.

Towards, the end of the season of Śarat (August–September–November), mustard (*Sarisa-Brassica campestris*) and raddish (*mūlā-Raphanus sativus*) could be cultivated.[106] Incidentally, the Vappaghoshavāṭa grant of Jayanāga (7th AD) states that a '*sarṣapa yānaka*' (mustard channel) formed one of the boundaries of a village in the Audambarika visaya of Karṇasuvarṇa.[107]

Between the last four days of *Bhadra* (August–September) and the first four days of *Āśvīna* (September–October), black gram (*kalāi-phaseolus mungo*) should be cultivated. The seed of the chilli (*Laṅkā-*

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capsicum annum) should be sown at the same time. Any delay in maintaining the time schedule would lead to the crop being inflicted with disease; avoiding the last nine days of *Āśvīna* and the first nineteen days of *Kārtika* (October–November), the pea (*maṭar-pisum sativum*) could be cultivated; white tila (*gingelly-sesamum indicum*) could be sown in the month of *Kārtika* (October–November) and black tila in *Māgha* (January–February); the month of *Phālguṇa* (February–March) was conducive for the cultivation of *patol* (*trichosanthes dioica*) and the esculent plant ola (*amorphophallus campanulatus*) and in the month *Caitra*, maize (*bhuṭṭā-zea mays*) could be grown.[108]

Crop Rotation and Double Cropping

Khanā's Vachan, further reveals knowledge of the practice of growing different crops in succession in different seasons on the same piece of land as well as of growing two crops thereon, at the same time. Thus, it has been claimed the chillies will grow well on the land where paddy has been cultivated:

Dheno māṭite jhāl prabal[109]

The prevalence of the system of double cropping is amply revealed in the following verses:

Sariṣā bune kalāi, mugh
bune beḍāo cāpḍe buk[110]

Sow the seeds of kalai (black gram-*phaseolus mungo*) and *mugh* (green gram-*phaseolus aureus*) on the same piece of land. The yield will make the farmer proud. The cultivation of the coral tree (māndār) along with betal nut palms in the same grove has already been referred to. Herein, the reason is that the leaves of the former will provide manure to the latter.

Interestingly, Khanā refers to a practice prevalent in rural Bengal even today—that of growing vegetables in the plot of land

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at the disposal of the farmer, however small that may be. Thus she maintains:

Uṭhān harā lāu śaśā
ghare tār Lakśmir dasā[111]

A person who cultivates the bottle gourd plant (*lāu-legenaria siceraria*) and cucumber (*cucumis sativus*) in his courtyard will be blessed by the Goddess Lakshmī.

Cāl bharā kumḍa pātā
Lakṣmī balen thāki tathā[112]

"The Goddess Lakshmi resides in that home where on the rooftop there is an abundant growth of pumpkins (*kumḍa–cucurbita pepo*)."

Significantly, the cultivation of all these food crops do not involve much expense. It is a common sight in almost every house in rural Bengal to spot these tendril climbers being provided with supports, entwining which they climb to the rooftops, where the vegetables grow. The *Subhāṣitaratnakosa* of Vidyākara, which contains a number of verses reflecting the poverty of the villagers, refers to a famished householder, consoling his wife with the wishful thinking that with their pumpkins, which they will grow without labour by their hovel at the end of the summer season, they will feed themselves like a king. In another verse, a housewife relies only on pumpkins for her family, but does not get a bounteous crop, because the water which she borrows from well-wishers leaks through the cracked pot and she cannot water them.[113]

In fact, the vegetables grown in the courtyard of the householder not only provide his family with food but often provide the only means whereby the peasant farmer can earn a living.

Agricultural Implements

Unfortunately, regarding this aspect of agriculture, Khanā is not very informative. She merely refers to the plough (*hāl*) drawn by

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bullocks and the spade (*kodāl*) used for digging up the soil.[114] However, the very fact that she refers to various kinds of agricultural operations indicates the use of some other implements other than those mentioned above. We may utilize data from some other sources, to form a more concrete picture. The *Kṛṣi-Parāśara* mentions eight constituent parts of a plough, 'conducive to welfare in all operations' and 'should be made very strong by cultivators.' According to the author, the *phālaka* (i.e. the ploughshare) resembles an *arka leaf* (*madar, calotropis gigantea,* Br-*Akanda* in Bengali).[115] In fact, in India, there are ploughshares consisting of a pointed piece of flat iron side by side with broad-lance shaped ones. There are sufficient and scientific reasons, such as differences in the nature of the soil, subsoil, crop, season and manure, for the choice of the former for soils where the latter would be out of place.

The *Kṛṣi-Parāśara* further refers to the *madikā* or *mayikā*, a word not found in standard Sanskrit lexicons, indicating its provincial origin. Its equivalent used in Bengali is the *mai*, a ladder-shaped contrivance used for levelling the rice-fields. In fact, the *Kṛṣi-Parāśara* contends that 'in the absence of that (application of the *mayika*), there is no even growth of the seeds'. The *viddhaka* is designated as the *bida* in Bengali and refers to the Indian harrow, used for breaking up clods of earth.[116]

The threshing floor, where on the reaped crops are stocked, has already been referred to. The *Kṛṣi-Parāśara* refers to the planting of the *medhi* or a pillar in the middle of a threshing floor to which the oxen are bound, in the month of *Agrahayana* (November-December) which is attended by elaborate ceremonies.[117]

It is obvious from the above account that compilations like the *Khanār Vacan*, help greatly in filling the void created by the paucity of ancient works on agriculture. This accounts for their indispensability, in spite of certain defects, in the reconstruction of the economic life in ancient India, wherein agriculture constituted the mainstay of the people from time immemorial. It has often been claimed and, to some extent rightly, that a bounteous nature has encouraged a life of ease and comfort and a tendency towards fatalism amongst the Indians. However, we have enough testimony

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to prove that our ancestors were never negligent of the actual needs of the society, their no mean achievements being reflected in Indian life, even today.

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2. *Imperial Gazetteer of India*, new edition (Oxford 1907), vol. I, p. 22.
3. *Triennial Catalogue of Mss. 1925–26 to 1927–28* (Government Oriental Mss. Library, Madras), Vol. I pt. I (Sanskrit), pp. 7277–78, Ms. no. 5276. fol. 16.
4. *Khanār Vacan* published by Visvadeva Mukhopadhyaya, Calcutta. The numbering of the chapters, verses, and pages in the present article has been made in accordance with the Pandit Rampada Bhattacharya's compilation of the *Khanār Vacan*, Kolkata Rajendra Library (not dated) (henceforth referred to as *Khanā*).

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6. Cf. R.C. Majumdar (ed), 1943, The *History of Bengal, vol. I (Hindu period)*, Dacca, p. 562.
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8. Sen, Prof. Dinesh Chandra, 1914, *Vaṅga Sāhitya Parichay (in Bengali) or Selections from Bengali Literature (From Earliest Times to the Middle Nineteenth Century)*, Kolkata, (University of Calcutta), part, I. pp. 10–11. (Henceforth referred to as *Vanga Sahitya*); Sen, D.C., 1954 (Second Edition) *History of Bengali Language and Literature* (Kolkata, University of Calcutta), pp. 22–23, (henceforth, *Hist. Beng, Lang.* .....)
9. J.C. Ray, *op. cit.*, p. 29.
10. *Vaṅga Sahitya* ... p. 11.
11. *Khanā*, II, verse 87, p. 13.
12. *Ibid.*, II, verse 39, p. 6.
13. *Ibid.*, II, verse 65, p. 10, The word used for sugarcane soil in the verse is *dhūlā*, which generally means dust. A similar sense is conveyed by the Bengali word *curna*, which in turn, is synonymous with *chūṇa* meaning lime (calcium). The latter meaning is applicable in this context as sugarcane soil, in fact, contains as high as 25–30% of lime.
14. Khanā, II, verse 97, p. 14—*tāmāk buno guḍiye māti, vīja ponto guṭi guṭi*—the last line refers to an important means of propagation of plants. *Guti* or *gula* refers to the ball of clay applied round the stem, for striking the root.
15. *Ibid.*, II, verse 103, p.15—*nārikela gāche nune* (saline) *māṭi/ śīghra śīghra bandhe guti.*
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20. *KP.* verses 154–155. pp. 39–78.
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22. EI, XXII, 150 ff.
23. Majumdar, N.G., 1929, *Inscriptions of Bengal* (Rajshahi) Vol. III, 99 ff. (henceforth *IB*).
24. *KP.* verse 10, pp. 2, 63.
25. *Khanā,* III, verse 140, p. 19.
26. *Ibid.,* II, verse 24, p. 5.
27. *Ibid.,* III, verses 135–138, pp. 18–19, Trans. of these verses in *Hist. Beng. Lang...,* pp. 20–21.
28. *Khanā,* III, verses 118. 120, 121. p. 17. Trans of these verses in *Hist. Beng. Lang...,* p. 26.
29. *Khanā,* III, verses 122, 123, 129. pp. 17, 18.
30. *Ibid.,* verse 128, p. 18,
31. *Ibid.,* verse 131, p. 18.
32. *Ibid.,* verse 130, p. 18.
33. *KP.* verses 65–70, pp. 17–19, 70.
34. *Rāmacarita,* III, verse 26 (B) p. 70; V, v. 4(B), pp., 79, 80.
35. Varāhamihira, *Bṛhat Saṁhitā,* trans. H. Kern (Cal.1865) XXI, pp. 32, 34 ff; XXIII, 6–9 (statistics of rainfall); XXIII, 2 (rain-guage). (henceforth *Bṛhat.*).
36. *Khanā,* II, verses 30–34, p. 5.
37. *El,* Vol. XX, 123–125. Vol. XXI, 172; Vol. XXXIII, 236–7.
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67. *Ibid.*, II, verse 106, p. 15.
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103. *GLM*, pp. 9, 33, 55, lB, III, 1, 14, 57.
104. Beal, *Records*, II, p. 194.
105. *IB*, III, 92 ff.; *PRM*, 1, 656, 657, 661; *El*, IV, No. 34, (Khalimpur plate).
106. *RIB*, p. 18.
107. *MASI*. No. 55 plate IV a.
108. Cf. *HB*, p. 451 and plate LXXVII, No. 181.
109. T.C. Dasgupta, *op. cit.*, p. 246 ff.
110. *Ibid.*, pp. 246–48.
111. *PRM*, 661; *ARM*, 2, 45.
112. *MASB*, Vol I, pp. 85 ff; *IB*, III, p. 178 ff.
113. *Ramacharita*, III, v, 19, p. 931, *ARM*, 2, 45.
114. B.C Sen, *Some Historical Aspect of the Inscriptions of Bengal*, Calcutta, 1942, p. 99.
115. *IB*, III, pp. 14 ff; 42 ff.
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Kiran Preet Kaur

Mortification of Self: A Critical Appraisal

Formal organizations seem to be an indispensable aspect of the present modern societies. Scholars like Etzioni (1961), Parsons (1960) and Caplow (1964) defined organizations and identified common characteristics of organizations such as collectivity of individuals having definite structure, division of labour, planning, control and communication for the purpose of achievement of goals. Scholars like Eldridge and Crombie (1974) differentiated organizations on the basis of goals, functions, systems of authority and technologies and accordingly typologies were formed by them. One such typology, i.e., total institution as a type of organization was put forward by Goffman. Davies (1989) highlighted that Goffman's analysis of the total institution could be understood if it is viewed as a total organization. Mouzelis (1971) went further and indicated that Goffman's concept of total institution should be applied to formal organizations only which the present study applied in the context of one of the hostels[1] of Panjab University Campus, Chandigarh. The paper dwelt upon three components dealing with a critical appraisal of Goffman's concept of total institution and feasibility of its application; background characteristics of inmates and their living in hostel, especially sharing cubicle room,[2] and interpretation of their experiences in terms of 'mortification of self.'

Methology

The study was undertaken during the academic session 2002 –2004. The study selected four cases, reported to have experienced

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mortifying situations while interacting with their room sharing mates. The data was selected with the method of naturalistic inquiry. The purpose of research was to capture the subjective meaning which the actor attatched to the situation and in Denzin's words to combined in native's symbolic meaning with ongoing pattern of interaction and to record the behaviour setting of interaction. All the four room mates were observed in interacting relationship by engaging two residents who collected data as participant observer.

The Concept of "Total Institution" and its Application

The concept of "Total Institution" which Goffman derived from the study of Asylums (1961) where all activities of inmates were tightly scheduled, time-tabled, formally supervised and conducted under strict surveillance to fulfil its official goals. Such individuals were cut-off from society to lead an enclosed life. Goffman highlighted a process of socialization which included stripping off their previous roles, personal possessions, civilian clothes, civil rights and relationship in other spheres of life which new recruits had to undergo on their entry to a total institution. They had to comply with its definition whose compliance had to be ensured by a supervisory staff. Upon entry inmates experienced "civil death" and the "mortification of self". The "mortification of self" was a profound attack on an individual's identity. Each inmate is removed, often abruptly, from a day-to-day environment that "confirmed a tolerable conception of self and installed in an institution that crushes any sense of self-importance. Even worse, inmates cannot escape mortifying situations, a problem Goffman calls 'looping'. In civil life, an expressed man runs out of the room, but in a total institution there is nowhere to run."(Goffman cited in Manning, P., p. 107–108).

What was central to Goffman's work was his assumption that all activities of the inmates were correlated, coordinated and controlled to achieve overall purpose of the total institution. Therefore, by assuming consensus within the total institution, Goffman applied this concept to a variety of organizations like

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prison, mental hospital, monasteries, military camps and boarding schools. Scholars like Perry (1974) indicated that authority structure within different organizations would be different.

Ignatieff (1983) too described that compliance of inmates would depend upon their voluntary or involuntary recruitment within a given organization. Silverman (1978) highlighted that Goffman applied the concept of total institution to different organizations which had entirely separate prime beneficiaries like that of inmates of hospitals and prisons. Not only one would find inter organizational difference in terms of authority and compliance of inmates in different types of organization. Even in intra organizational context one would find variation in terms of rules, their application and compliance vis-a-vis each activity. By assuming consensus among different aspects in a single organization Goffman applied the concept of total institution to different organizations, but his critics, however, found that application of rules, authority and compliance of inmates would be different in different types of organizations. The question arose: could we apply Goffman's concept of total institution to find variation among different aspects in the context of a single organization? For each aspect, rules, application of authority and compliance of inmates would vary. The present paper focuses on one aspect, i.e., the sharing of a room between two inmates to find out how far the application of rules and compliance of inmates existed. The residents had clearly indicated that this aspect created a mortifying situation for them. The reasons for which were given below.

The girls who sought admission could not be accommodated within the existing residential accommodation. The increase in their numbers might be attributed to the introduction of new courses within different teaching departments of the Panjab University Campus, Chandigarh. Also relatively more number of girls were found to be joining new and old courses. To meet the shortage of accommodations, the administration of the University came out with building new hostels and construction of additional block in one of the existing hostels. At the same time to channelise the admission process within hostels, the University administration

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specified within the hostel rule book that the right to admission was no guarantee for accommodation in a hostel. The University administration could not provide accommodation to all those girls who had been applying for it in the recent years. Therefore, the University administration framed the norms for sharing of single rooms for female residents, in particular, in the first year of joining hostel. The present paper examines the phenomena of sharing of a single room and the consequent mortifying situations faced by the two inmates. The hostel selected for study had distinct building structure and provided unique setting from the point of sharing single room between two inmates of the hostel, which had six-storey building. Its infrastructure included 195 cubicle rooms and twelve dormitories. Each floor had six blocks, five units, two dormitories along with an elevator facility. Each unit had seven rooms with one spacious backroom, washroom and toilets. There were terraces and corridors with each unit where inmates interacted at different levels.

In a single cubicle room the residents were made to share different objects like study table, study shelf and almirah. However, they kept separate beds and chairs which made the room congested. Not only they were made to share different objects within a limited space of a single room but they had to adjust their study, sleep, recreation and visitor's timings as well, for which they often entered into conflicts with each other. Some of them even indicated that sharing meant too much for them. The present paper had also dealt with the role of warden in terms of dealing with the aspect of sharing room.

The warden had often been receiving object (building structure, equipment and food articles) related and person related complaints regarding different aspects e.g. food, recreation and stay, (living and sharing within room). Regarding the sharing of the room both objects related and person related complaints were received. But, more complaints were person related and dealt with issues like sleep, study and recreation within room between the two room mates. Some of the complaints were of routine in nature and could be solved with little intervention whereas in some cases

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residents reported to have experienced mortification of self, which required intervention of the warden.

Room mates in Interaction Situation

In the following section the room mates in four rooms had been observed in interacting situations.

First Room

Anita and Babita joined a professional course at Master's level in a teaching department in the faculty of professionals. Not only that their department was allotted seats in the hostel but were they made to share the same room. Both were more or less in the age group of 24 years, Hindu by religion and hailed from urban areas of Punjab and Haryana respectively. Anita was Khatri and Babita was Jat by caste but both had 'service class" background. Anita's father was in government service and her mother was a teacher at primary school whereas Babita's father and mother were in the teaching profession at college level. Both were brilliant and doing well in their academic career at school level. They got admission in professional institutes of repute for their degree courses through competitive examinations and after completing their graduation they qualified for admission to master's degree courses in one of the professional faculties in Panjab University Campus at Chandigarh.

Both were career conscious, hardworking, and industrious. The structure of course curriculum was designed in such a manner that they had to be regular in their studies. They participated actively in their classroom pursuits. They visited library regularly. They often interacted with students of science, engineering and business management in the hostel. Both went to their department with other classmates.

Anita and Babita had a very cordial relationship and had mutual liking and respect for each other. Small issues, such as cleaning the room, use of bath room and other articles in their room were non

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issues for them. They, however, were encountering a typical problem. As and when Babita's friends would drop into their room, Anita would be in drooping spirits. Babita had a posse of good friends whereas Anita hardly knew anyone in the city. Anita wanted to keep herself away from the coterie as she was fond of her emotional attachment to Babita but could not do so. It was not possible for Babita to leave her friends for Anita. This relationship perturbed Anita to the extent that within two months of her stay in the hostel, she left it. Her parents managed to put her with the local guardian (her father's sister) for some time. But she felt uncomfortable with them.

Anita was so upset that she decided almost to discontinue her studies. Her mental state of affairs was unbearable for her parents. They brought it to the notice of the hostel warden, who stepped in and enquired from Babita and their unit mates. Babita expressed "I do not understand what goes wrong with Anita in the room especially when my friends come. She is fine in the department and scores well in her examinations." After having dialogue with Babita, the Warden found there was no point in asking the two to continue in the same room. The other residents who were destined for sharing room but were not allotted roommates as yet, were asked separately to accommodate Anita. One of them—only Arti, was found suitable for Anita. Arti was pursuing post graduate course in Education. She was Sikh by religion and Khatri by caste. Her father was an officer in Defence Services and she was exposed to hostel life at degree level before joining this hostel. After discussions with her parents and considering all the relevant aspects, Anita was shifted to other room to share it with Arti. Arti could understand Anita's psyche well and realized her emotional need. Both Anita and Arti could adjust their timings in such a manner that they could study together in their room. Even for meals and watching T.V. in common room of the hostel, they could accompany each other. Sometimes they accompanied each other to the nearby shopping centre, movies and exhibitions too. During this period. Anita came into contact with girls who exalted her to recognise her potential. Enthused by the mates, she played active role in

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cultural activities of the hostel. She had no interest in 'political culture'of the hostel.

Second Room

Deepti had joined a post graduate course in faculty of design and fine arts. She was allotted a room to share it with a girl from faculty of arts. There was a sudden row between them, and within a week that girl decided not to stay with Deepti. Another girl from Deepti's department was asked to share a room with her. No one knew what happened later on as Deepti made her not to check in the room. Deepti decided to search someone else as roommate. She found Ekta, a simple girl, hailing from hilly area, who looked simple and docile and was a student in one of the departments in the faculty of languages. Deepti requested the warden to allot her room with Ekta before Ekta was allotted room with some one else. Both were native of Himachal Pardesh; Hindu by religion and Brahmin by caste. Deepti's father was a correspondent with a leading newspaper in their native place and her mother was in government service whereas Ekta's father was doing a small business and mother was a housewife. In their relationship as roommates, one found that as and when Deepti had to play an instrument for riyas, she would suggest to Ekta to go to another friend's room so that she might not get disturbed. Instead of going to a friend's room, Ekta would stand in the terrace facing their room because she perhaps did not like to go to someone else's room. Their unit mates did not like Ekta's standing outside. Astonishingly, Ekta never grumbled or grudged. She rather told her unit mates that when she studied and kept light on during night, Deepti would neither object nor ask her to switch off the light. She would rather cover her face and sleep. Deepti also received long calls on her cell phone and would speak at a very high pitch while attending to her calls within the room. Sometimes she was so loud that the inmates from neighboring rooms would get disturbed. They brought it to the notice of the Warden and who in turn advised Deepti to keep her pitch low but her roommate Etka never objected to Deepti's high volume. So far as cleaning the room,

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Deepti had a knack of keeping her room absolutely neat and clean. She would tie an apron around her head and would start the drill of cleaning. Sometimes she would ask Ekta to wait outside when she would do the job. She would sweep the room, clean the study table, dust the book shelf and almirah daily whereas Ekta had hardly any interest in cleaning the room. Deepti had, however, joined a political party and was active in students' politics. She would help candidates during election time by mobilizing the hostel residents. She frequently attended party meetings which were usually followed by evening get togethers primarily attended by boys. Sometimes Ekta also accompanied Deepti to party meetings. Deepti's style of living changed whereas Ekta's habits remained static. After having received complaints the Warden mediated in the relationship and offered Ekta to change her room but Ekta expressed differently and told that Deepti helped her in different ways both within and outside the room and she would continue staying with Deepti.

Third Room

Gurleen joined a post graduate course in the faculty of education whereas Harleen joined post graduation in one of the subjects in faculty of arts in Panjab University, Chandigarh. The seats of their respective departments were allotted in this hostel which they occupied and were made roommates. Both were Sikh by religion and Jat by caste. They belonged to landlord families from rural Punjab. Gurleen, aged 24, completed her schooling from native village. She graduated both in science and education (B.Sc. and B.Ed) and post graduated in science from a university in Punjab. Harleen aged 21 years, schooled from a prestigious boarding school in Himachal Pardesh, and she graduated from a college in Chandigarh where she was also a hostler. Gurleen was older than Harleen by 3 years. But Harleen's exposure was more than that of Gurleen. However, Gurleen was hardworking, determined and career conscious. She wanted to be a teacher in a public school as she disclosed that she never had a chance to study in a public school

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whereas Gurleen who was a product of a public school lacked purpose of life.

Both Gurleen and Harleen differed immensely with each other. There was always a personality clash between the two. The unpleasantness between them would occur even on minor issues, like keeping the room clean. Gurleen was keen to keep the room elegant and cozy. She dusted the cupboard, book shelf and study table daily. She liked to keep everything in order whereas Harleen was all lazy and unconcerned with neatness.

The unit mates could overhear Gurleen telling Harleen in the morning "you cannot bathe regularly, you cannot take your socks out of your shoes and keep them at proper place, therefore, keeping room neat and orderly is beyond you." To this, Harleen would retort while half awake and would mutter "I am not going to do anything." Such encounters would result in heated exchanges and it used to happen daily in the morning.

Gurleen would often enter into conflict with her unit mates regarding different issues like waiting for bathroom and noise in the unit. She would not like to wait for her turn to the bathroom. She would rather budge into it out of turn and pick up quarrel when she was questioned by others. She was fussy even about her bathing bucket or the water in it. Further, two girls opposite to Gurleen's room would put their music systems on loud pitch and would often talk loudly for which she would get awfully upset. She used to discuss with senior research scholar in her unit and was suggested to bring this to the notice of the hostel Warden.

Gurleen had reservations on devoting time on her studies in the room. She always preferred to study in the university library. Whereas Harleen though regular in her studies, would hardly study in the room and was in the habit of going out with her group of boys and girls with whom she would socialize. Both of them however, found hostel environment suitable for making friends. Both were enthusiastic to enjoy the freedom in the life on the University Campus. Both used to sleep by 11 o' clock and keeping light on was again no hassle as far as their studies were concerned. Even their cell phones were no nuisance for each other.

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None of them ever complained to the Warden, against each other. Although Gurleen was so disturbed but avoided bringing to the notice of Warden. Their unit mates had however, already brought everything to the notice of the Warden about their confrontation in the room. Gurleen was also apprehensive that the Warden might not listen to her as Harleen was in the good books of the Warden, since she actively participated in the hostel activities and used to take attendance of residents on rotation basis. Whereas Harleen never bothered for Gurleen in the room. She never thought of bringing anything to the notice of Warden as she considered the mutual relationship as non issue.

Fourth Room

Chandini and Charanjeet joined professional courses at graduate level after qualifying in entrance examination in different departments of Panjab University, Chandigarh. Charanjeet happened to join graduation in pharmacy after twelfth class whereas Chandini was pursuing law after graduation in arts. Charanjeet was made to share a room with Chandini in her second year of stay at the hostel. Charanjeet was 19 years old whereas Chandini was 21. Charanjeet was Sikh and Chandni was Hindu by religion. Both were Khatri by caste. Charanjeet had service class background whereas Chandini had business class background. Both hailed from urban areas in Punjab.

In their relationship within the room, they were incompatible with each other as far as observance of studying and sleeping timings were concerned. Charanjeet would get up at 4 in the morning and would study for three hours. Chandini never liked the idea of getting up early in the morning but always preferred to sleep. She always resisted and showed her indifference. It was not possible for Charanjeet to change her habits which she had developed since her childhood. Charanjeet was also particular in observing timings for sleep. She would sleep by 10 at night whereas Chandini had no fixed routine either for studies or for sleep. Chandini's friends often dropped in for gossip. She also found it difficult to enjoy music in the presence

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of Charanjeet. Chandini discussed everything with the Warden and expressed her desire to change the room with another resident of her native place. The Warden did not entertain Chandini's complaint and suggested her to continue staying with Charanjeet. Surprisingly, Charanjeet did not ever object. She was so firm in her studies that almost whole day she preferred to spend her time either in her department or in the University library whereas Chandini came back to the hostel for lunch and slept in the afternoon and spent a little time even for her studies . Charanjeet never came to the hostel for lunch which she preferred to take from the department canteen so as to save time for her studies.

Chandini and Charanjeet were comfortable with each other as far as sharing of cupboard was concerned. Both were conscious of keeping their stuff intact. They would do up their room and different objects within it without any conflict but Chandini did not like Charanjeet's habit of overloading study table with books and other study material. Chandini was really impressed and got surprised that Charanjeet never objected to anything in their interpersonal relationship. She did not discuss even the complaints made against her by Chandini to the Warden. This changed Chandini's attitude and she started appreciating Charanjeet's sense of commitment, discipline and regularity in study. Chandini decided not to entertain her friends in her room. She on the other hand started visiting them. She would tell everyone in the unit not to put on music on high volume as Chanranjeet had to sleep. Chandini also acknowledged the fact that Charanjeet has made her career-conscious. She also told that her parents appreciated her being wiser.

Intepretation of Findings

In the first room, Anita and Babita in their room relationship were facing the typical problem that Anita never liked Babita's friends visiting her in their room. This disturbed Anita so much that without letting anyone know she went home and decided to discontinue her studies. Anita's mortifying situation developed so extreme that her

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parents brought everything to the notice of the Warden who had to then inquire from Babita and their unit mates. Babita said that she was unnecessarily blamed for Anita's situation. To Babita, this was just a pretension as she did well in her studies and interacted well in the department. Anita's mortifying situation could be changed/modified by changing her room with Arti.

In the second room, Deepti rather than experiencing mortifying situation for herself made first roommate to quit within a week, second one even not to check in and ultimately searched a roommate of her choice and convinced the Warden to allot her room with Ekta. In their room - relationship. Ekta frequently asked Deepti to leave the room as and when she had to play instrument for riyas and also to make calls over her cell phone. Ekta was frequently found standing in the terrace by her unit mates. They also brought to the notice of the Warden as they themselves used to get disturbed because of the high volume of Deepti in attending to her phone calls. Their unit mates felt that Deepti created mortifying conditions for Ekta. When the Warden intervened, Ekta negated that Deepti created mortifying conditions for her. Rather Ekta commented that Deepti not only enabled her to study in the late night hours in the room but also took the responsibility of cleaning the room and she also made her acquainted with ways of University life.

In the third room, Gurleen and Harleen, in their relationship of sharing room, had a lot of differences. For instance, Gurleen was conscious rather obsessed with the issue of cleaning room. She would sweep and dust all the objects almost daily whereas Harleen never bothered or showed any interest in cleaning room. On this issue, they would enter into heated exchanges which could be frequently heard by their unit mates also. But Gurleen often entered into conflict relating to bathroom issue and noise in the unit with her unit mates who also complained against her to the Warden. Although, Gurleen was too disturbed with Harleen's attitude of cleaning room, but she avoided complaining against Harleen as complaint was already made against her by her unit mates and also she had apprehensions that if she complained that

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may not work as Harleen was in good books of the Warden as she actively participated in hostel's functioning. Harleen told that Gurleen was too obsessed with cleaning room and that she would unnecessarily shout at her.

The fourth room was shared by Chandini and Charanjeet. Chandini claimed to have experienced mortifying situation because of her inability to change Charanjeet's study timings in the morning hours (4 a.m. to 7 a.m.). Chandini always preferred to sleep during these hours and desired to change her room and she brought it to the notice of the Warden. The Warden rather than changing her room suggested to Chandini to learn from Charanjeet's way of life while staying with her. To Chandini's surprise, Charanjeet never discussed and grudged for the complaint made against her. This changed Chandini's attitude and she acknowledged that Charanjeet added to her maturity and made her realize to be disciplined and career conscious.

Anita, Gurleen and Chandini reported to have experienced mortification of self. The nature and intensity of mortification varied in each case. All of them wanted to mend ways of their respective roommates. Anita desired Babita to leave her circle of friends. Gurleen wished Harleen to keep room tidy and orderly, and Chandini wanted Charanjeet to change her morning study timings (4:00 a.m. to 7:00 a.m.). Anita's situation reached extreme level that she decided to discontinue her studies, and she went home without letting anyone know. Gurleen was often found shouting at Harleen which would result into heated exchanges often heard by their unit mates whereas Chandini expressed her desire to change her room. To Babita, Anita's situation was just a pretension as she devoted sufficient time for her studies and participated in both academic and non-academic activities of the department. Harleen expressed that Gurleen was consistently making her life difficult in the room, and she had also learnt not to bother. But their heated discussions could be heard frequently by others. Gurleen had a life outside the room also as she preferred to study in the university library and enjoyed the company of her classmates, most of them boys. Chandani could enjoy her life in terms of enjoying to music,

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entertaining her friends in the absence of Charanjeet who remained out for most of the day. Both Anita and Gurleen experienced mortifying conditions within room, but they had life outside the room. In Chandini's case, she was reported to have experienced mortifying condition in the room, but she could enjoy her life both in the absence of her roommates for the whole day in the room. Even they had compatible relationship with each other in terms of sharing cupboard or cleaning room.

From the above analysis, it was clear that Anita and Gurleen were mortified at one place i.e. within the room, did not experience mortification at another place, whereas Chandini was mortified at one point of time i.e. in the early hours of morning, did not experience mortification at another point of time within the same place. It seemed that it might not be appropriate to examine the phenomenon of self from the point of view of mortification of self only. The organizations like boarding schools and this hostel in particular located within the university campus provided sufficient autonomy to its inmates both within and outside the hostel. Goffman presented the characteristics of the "total institution" where inmates experienced civil death or mortification of self and supervisory staff had to ensure compliance by the inmates. Besides examining the phenomenon of mortification of self, it was needed to examine the modification of self which the inmates could undergo after joining the university hostel. To add to this, the Warden's contribution in this regard could also be of interest and worth examining.

Notes

1. The administration of all the hostels (seven for boys and five for girls) was under the office of the Dean Student Welfare (DSW) headed by two Deans, one for boys and the other for girls. All rules pertaining to different aspects i.e. stay (living and sharing room), food and recreation and general rules relating to attendance, leave, visitors, mess and canteen dues, fines and students committees of the hostel were framed and modified by the DSW office and the rules so framed were part of "Panjab University Hostel Rules Book". The Warden of each hostel had to ensure

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implementation of the hostel rules in the respective hostel. The modification of rules if required was jointly done by different committees of Wardens who worked under the supervision of DSW office.

Out of different aspects of hostel life the girl residents in particular admitted that sharing room put a lot of constraint and generated mortifying conditions for them. Although there is a provision of moving out of hostel during the day and also at night by filling in home-going register, still inmates find it difficult to share a cubicle room.

2. The paper had not focused at all on food and recreation aspects of hostel life. The food in the form of dinner and lunch was provided in the mess. Breakfast, evening tea and snacks were made available and served in canteen at specified moments. There were two mess contractors, one canteen contractor, their workers and the whole contingent. The contractors were appointed by the DSW office for one year. The recreation facilities included the provision of a TV set, music system, magazines, journals and daily newspapers in the common room. The residents, under the leadership of the Warden, celebrated festivals like Diwali, Holi, Lohri and two hostel functions i.e. Freshers Function and Annual Function with great fervour.
3. The author herself had been a Warden of a Women Hostel and had practical experience of interacting with the residents. However, thanks are due to Kanwaljit Kaur and Manmeet Sodhi who acted as participant observer and their help was in valuable.
4. The real names of the sampled residents had been changed. Although some of the names might resemble original names but the names had been changed not to disclose their identity.

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SYMPOSIUM

D.P. Agrawal

Religion, Philosophy and Science in a Historical Perspective

In his recent book, *Religion, Philosophy and Science* (2006)*, the well known philosopher D.P. Chattopadhyaya (DPC) covers a vast ground from scientific and philosophic basics of ancient civilisations to spread of Islam, genesis of science in Islam, interaction between Islam, Judaism and Christianity, history and geography of science, the civilisational dialogue between India and China, linguistic hypotheses, European imperialism, zero, gun and gun powder, concluding with the Epilogue covering naturalism, humanism and beyond.

In this article we discuss some of the important issues raised by his book.

D. P. Chattopadhyaya (DPC) has discussed religion, philosophy and science which are not always easy to disentangle. He takes a global view of these disciplines but discusses them in the matrix of history. His views on the philosophy of history, in the background of religion and science, come out succinctly in this book. Regarding archaeology also he says, 'Archaeological findings, rightly understood, are backwardly integrated history. History as we know is contemporaneous and rightly understood, futuristic or projective in character'.

*D. P. Chattopadhyaya, *Religion, Philosophy and Science: A Sketch of a Global View*, Indian Institute of Advanced Study, Shimla, 2006, pp. 253, Rs. 500.

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In his prologue to the book he has traced the history of religion, philosophy and science through the millennia in Europe and West and South Asia. He also explains that the boundaries of nations and countries have been changing in time and space. Even the concepts of India of the Harappan times, the Mauryan, the British and the Post-Independence periods are very different (Agrawal 2001).

DPC says, "But history itself, when gone into details, makes it plain that the boundaries of the countries and cultures on the globe have been always undergoing change. The physical features of the earth like rivers, seas and oceans, deserts and mountains, rightly understood, are not really dividers but have been acting as connectors. The movement of the human races from place to place, from time immemorial to the modern age, when we speak in terms of globalization, we just remind ourselves that the concerned processes are not radically new. But the same has been surviving in our archaeology, history, philosophy and science. If this book of mine, even in its present sketchy form, helps the readers to be conscious of the global dimension of human heritage and its endless future, I shall feel rewarded and fulfilled (2006:10)".

He also recognizes that the emphasis on the distinction of the philosophy and science is of relatively recent origin. This is true of not only India but also of Europe. He informs us that for understandable reasons (i) Man, (ii) his environment and (iii) nature occupied the central position in the human quest for knowledge. In his book he traces this quest for knowledge through the history of the ancient civilizations of the Mediterranean, Mesopotamia, Iran, India and China. Through time, DPC, the catholic philosopher that he is, sees a similarity in the teachings of Confucius, Lao-Tze, the Vedic hymns, Buddha's sayings, the Quran and the Bible, which have historically proved themselves as so many starting points, which become gradually and increasingly influential. He recognizes that the shift from the theological to the epistemological and logical justification, though slow, has become evident from the history of ideas.

In his historical perspective, DPC also recognises the inevitability of the global diffusion of philosophy, religion and science. For

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example al-Farabi was a person of Turkish origin who studied with many teachers of different persuasions, including Christianity at such different places as Merv, Persia, Haran, Syria and Baghdad. His teacher Ibn-Unis was a Christian scholar of Aristotelian school in Baghdad. Al-Farabi's main book the *Ideal City*, was written mainly under the influence of Plato and indicates the connection between the Platonic political thought and the Islamic thinkers of the time.

Taking a historical view of philosophical developments, DPC finds that both in India and China Buddhist mysticism flourished at times of political stability and economic growth. He says that in the Gangetic Valley when the Mauryas, the Guptas and the Pals could ensure political and economic development, Buddhism and its mysticism did develop. Similarly, the Chinese mysticism became popular during the prosperous Tang dynasty. He observes from the history of different regions in different countries that mysticism was promoted by socially encouraged and politically favoured monasticism.

DPC observes that between the eighth and the fifteenth centuries AD when Islamic civilization came in contact with the Hellenic and then the European civilizations, it developed a scientific tradition assuming a very important character. While philosophy tries to give a holistic view of life and reality, the aim of science is to provide a more specific view of different aspects of reality.

DPC observes, "Both West Asia and the southern part of the Iberian Peninsula were culturally and historically close to Europe, particularly Italy and Greece, even before the Christian Era. These spill-over effects of the Hellenic philosophy and the Roman Empire and the *Pax Romana* brought the littoral countries of the Mediterranean Sea close to each other in various ways. The emergence of Christianity and Islam thereafter contributed much to the ideas and ideals, both philosophical and scientific, of the concerned peoples. Later on religions and cultures of the West Asians, the North Americans, the Iberians and the Graeco-Roman interacted intensively and extensively. That explains why the history of the peoples living in these areas forged many common linkages—

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philosophical, religious and scientific. The tradition which had started in the pre-Christian era survived for many centuries and got inter-fused in numerous ways. Ups and downs of political rules and religious orders are invisibly influenced by ethnic roots and languages of the concerned peoples who somehow succeed in learning from *others* without totally surrendering their self-identities (2006: 60)".

DPC also finds interesting parallelism between the theological cosmology of Hinduism and Hellenism. "In both cases the universe is believed to be consistent of three levels or worlds *(loka)* -heaven, atmosphere and earth. Heaven is taken to be the male principle and the earth feminine and mother. According to the Vedic conception, the earth was flat like a disc. In the later texts five elements are recognized-ether-space *(akasha)*, wind *(vayu)*, fire *(agni)*, water *(apas)* and earth *(bhumi)*. These elements, theological in origin, had been extensively used in formulating *the* basic Vedic Ontology (2006: 199–218)".

Discussing the example of rituals related to birth and death, he thinks that the religiosity, scientificity and true philosophicality of the concerned view and values are time-bound and culture specific.

DPC's views of philosophy and science are informed by a historical perspective. He thinks that the European historiography shows that its understanding of the West Asian religions, compared to the East Asian ones is better informed and more sympathetic, which shows that geographical proximity and the discernable historical contiguity have definitely something to do with the quality of cultural understanding.

He takes a historical view of the military invasions and observes that when large scale army movements take place, their spin-off effects in the forms of ethnic mixture, linguistic interaction and exchange of ideas for a long time. Such military events eventually get reflected in the fields of religion, scientific ideas and political strategies.

He discerns a new picture of Eurasian history in which different religions like Shamanism, Confucianism, Hinduism, Buddhism, Christianity and Islam and their related religions, philosophies and sciences have not intermixed without shedding their identities.

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Commenting on the civilizational dialogue between India and China, DPC notes that the barriers of the Himalayan mountain ranges, deserts and the Indian Ocean did not prove an obstruction for the dialogue. On the contrary, DPC thinks that the so called physical barriers, in fact, facilitate mutual interaction. It is interesting to note the example of Central Himalayas which are relatively isolated, both from the Ganga valley and the East and Southeast Asia, by deep valleys and high Himalayan ranges. The strong residue of Mon-Khmer language in the Kumauni dialect shows the cultural contacts with South China perhaps going back to early Holocene times. Similarly the archaeo-metallurgical contacts, as well as the interaction between the Himalayan Medicine System and the Gangetic Ayurveda are quite manifest (Agrawal and Kharakwal 1998).

Elaborating the civilisational dialogue between China and India, DPC says, "With the fall of Han Dynasty Confucianism lost its supremacy substantially. This accompanied political disunity of China, particularly from the third to the sixth century. For the time being though the Confucian influence declined, it never completely disappeared. The foreign invasion and internal disunity were mainly responsible for the decline of Confucianism. But, as said before, the barbarians from the north-west though militarily conquered the disunited China and imposed their rule, with the passage of time they started gradually accepting many elements of the superior cultural heritage of China both in the fields of religion and administration. This happened between seventh and tenth century. This was also the time when Buddhism substantially conquered China in terms of religious influence and China transformed Buddhism by its rich, old and lasting heritage. The interaction between Buddhism of Indic origin and the indigenous Confucianism started laying the foundation of a composite culture and composite polity. In the process of transmission of Buddhism from India to China Tao's concepts were heavily used in the subsequent period. During the Sung dynasty (AD 960–AD 1279) China developed significantly in terms of culture, commerce and technology. This is the period when aristocracy declined and the

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polity became relatively democratic through the spread of education. Several classical scholars like Hu Yuan (AD 993–1059), social reformers like Fan Chung-yen (AD 989–1052), writers like Au-yang Hsiu (AD 1007–1072) and historians like Su-ma Kuang (AD 1019–86) significantly contributed to a new revival of new Confucianism, giving rise to a new form of humanism. It may be recalled here that in its revived form Confucianism expanded beyond China to the countries like Japan and Korea (2006: 112)".

In his view of history of religion and philosophy of Europe between the middle of first millennia AD and the early twentieth century the two religions of Europe and Asia interacted with one another and both have undergone significant changes in their political and religious views, values and institutions.

DPC regrets that in the history of mankind, religions, both major and minor, have largely failed to work efficaciously as a potent force of unity. These phenomena, on analysis, are found to be complex both in their causes and effects. Religious, ethnic, political, economic and ideological factors get inseparably intermixed in causing these anti-civilizational events in the history of civilization. That history is not homogeneous and linear becomes clearly evident from this type of tragic events. Looking at the present day global scenario one may feel inclined to describe it as a continuous trend.

Of late the expression 'clash of civilizations' is being widely used. DPC wonders whether the concerned events and their trend should at all be described as 'clash of civilizations' or the necessary corrective measures. DPC pleads that instead of 'clash', *civilizational dialogue* should be highlighted. True civilizations cannot and do not clash. The clash is between defenders of civilization and its enemies. It is true that many of the well-meaning dialogues, initiated by large-hearted humanists, religious and secular, have failed to establish durable peace. Failure of dialogue must not induce us to believe that dialogue will not do and that the clash of civilization is inevitable. On the contrary, DPC insists that the failure of dialogue highlights the necessity of more dialogues, more structured and purposeful dialogues.

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DPC however warns that repeated failures of different religions do not mean that spirituality has no positive and salutary effect on human minds. He says, "When we go deep into the history of denominational religions, two aspects of it appear clearly before our mind—hegemonic and harmonic. History of such major religions like Christianity and Islam is marked unevenly by their harmonic and hegemonic phases. We have already seen that many different European tribal peoples, who had been engaged in internecine clash and conflict, became gradually somewhat unified after the advent and spread of Christianity. From the available history of Christianity in the ancient Europe, I think, we would be justified in assuming that there had been some forces in this religion, perhaps mainly the message of love, which could answer the needs of the so-called pagan tribes, inducing them to realize the necessity of coming together under a unitary fellowship, strong or loose (DPC 2006: 203–205)"

According to DPC, "The emergence and spread of Islam also illustrate this general point. Before the appearance of Muhammad (*c.*AD 570–632), the Prophet or (as Muslims call him) the Messenger of God, the Arabian Peninsula had many tribes perpetually engaged in conflict between themselves. We can easily imagine that this distressing state of affairs was unacceptable to the people in general and Muhammad in particular. He was a religious leader with a deep political intuition in him. He realized that unless these tribes could be unified by a new religious ideal, the concerned people were destined to live in endless wars and the resulting misery and suffering. His struggle with the pagan Qurayash of Mecca and his difference from the Jews and Christians of the time make it clear that the people of Arabia needed a new social order and political structure which would ensure them peace and freedom from the existing unbearable suffering.

"Islam is claimed to be a revealed religion. Though his followers regarded him as a Prophet, he himself always insisted that he was an ordinary human being. To him God is believed to have revealed the truths necessary for the establishment of religious fraternity and the resulting welfare of the people. It was natural that after his death

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a large number of his followers did try to make out that he was more than what his humility led him to describe himself. He was not an ordinary person like others: he was the true Prophet. Islam originated in the regions where strong Jewish, Christian and Zoroastrian traditions survived in popular thoughts and practices. It was therefore inevitable that the followers of those faiths would contest the teachings of Muhammad and his followers".

About Islam's spread DPC says that it is both astonishing and instructive to recall that the spread of Islam was phenomenal in its pace, length and breadth. Approximately speaking, within two hundred years of the Prophet's death the countries from Central Asia to Spain and from Turkey to the Arabian Sea came under the religious spell and control of Islam. This phenomenal development, large acceptance of Islam as religion by those who had been previously believers in other religious faiths, has been understood and explained in very many ways. Two of these interpretations deserve special mention. First, it has been maintained by some writers on the history of Islam that the military might of the followers of the new faith was responsible for this large-scale conquest and conversion of erstwhile believers in other religious faiths. Secondly, many Islamic and non-Islamic scholars on the history of this religion are of the view that a strong spirit of fraternity and (an equally) strong sense of loyalty to the Prophet and, later on, the acknowledged Caliphs can alone explain this expansion of Islamic faith.

DPC recognises that during the last two centuries the forces of materialism and Marxism proved to be very influential. While Spengler speaks forcefully of the decline and impending death of western civilization, Toynbee, with his religious proclivity and vast erudition, highlights the primacy of spiritual forces in shaping civilization. DPC however is keenly aware that given the present trend of European historiography, represented by such historians and historiographers as Lewis Namier, Karl Popper, Fernand Braudel, Isaiah Berlin, the concepts of rhythmic and/or macro history, governed by some fixed laws, have gone out of fashion.

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Laws of History

DPC does not recognise any fixed laws of history except that national boundaries are ever-changing and all knowledge keeps diffusing through such shifting boundaries. The only generalisation he seems to believe in is that the story of human civilization shows gradual enlargement of human aggregates from the smaller ones to the larger ones. This he thinks is a steady civilizational trend. This trend is existential and need not have a law like character. He thinks that this trend can be taken forward making the possible world real and actual. He points out forcefully towards the tremendous responsibility of making a global institution for the mankind as a whole, irrespective of their ethnic, religious or other kindred affiliations.

Concluding his incisive and comprehensive discussion about history, DPC says, 'History is what the historian makes it... Tomorrow's historian, using these very materials, is likely to write a different history. The 'same' materials are read, interpreted and used differently by different historians.' He feels that *itihasa* has a distinct orientation towards future. 'Rooted in the past, our existence is an executable project, perpetually self-exceeding and forward looking.'

We may agree or disagree with some of DPC's contentions, elaborated in his various writings, but they have been argued very cogently. For example, at times he seems to equate history with science whereas history is far more complex than the worst non-linear chaotic dynamic systems in nature. DPC's philosophy of history is indeed very thought-provoking, combining a stimulating excursion into the human past and contemporary reality, with an emphatic future-oriented perspective.

D.P. Chattopadhyaya (DPC) is better known as a philosopher but his contributions to historiography are no less significant. In recent years he has sponsored an ambitious project on History of Science, Philosophy and Culture in Indian Civilization (PHISPC), under which a large number of volumes have already been commissioned. This great effort is as monumental in scale as the one undertaken by Joseph Needham for his series on *Science and Civilization in China.*

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In 2001 DPC had published a small book titled, *The Ways of Understanding the Human Past.* It was a brief but very lucid presentation of his philosophy of *Itihasa,* as distinguished from the western concept of history.

Though DPC is a philosopher and an intellectual, his perspective is always informed by a multi-disciplinary approach. Especially in his recent books [*Religion Philosophy and Science* (2006) and *Ways of Understanding the Human Past* (2001)], he expounds the philosophy of history and brings out the difference between history and science. He says, history is what the historian makes it. To call it science or art is external to its making, putting a label on it from without is a meta-historical act. He delves into many interesting problems like concepts of time, including why India lagged behind in the development of technology, despite a head-start of fifteen centuries over the West. He brings out the difference between the concepts of history, in the western sense and *itihasa* of the Indian terminology. He has his own views on the problem of the relative chronology of *Ramayana* vs *Mahabharata.* The philosopher that he is, DPC expounds the fundamentals of Indian history with the detachment of a logician and the grand perspective of a philosopher.

Defining History

Distinguishing *itihasa* from the Western concept of history, DPC says, "Language and the linguistic expressions are more or less culture-specific. I say 'more or less' because culture has no boundary wall around it, at least in the physical sense. The creative carriers of culture, human beings, though in most cases have their habitats and addresses, are not glued to them. Neither time nor place can strictly bind us to such limits. Yet, in a very important sense, we ourselves and what we do, think, feel and will are situationally oriented. In other words, our culture without losing its freedom is necessarily located in some or other historical perspective. That partly explains why we cannot view ourselves and our culture under the aspect of eternity. We understand ourselves historically or under the aspect of *itihasa* (DPC 2001)"

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He further explains that history may not mean the same thing as *itihasa* although the English word *history* is regarded as *itihasa* in many Sanskrit-rooted Indian languages. Emphasising the difference between history and science, paradoxically DPC finds the former as concrete and the latter as abstract. "The historian's world is relatively arrested, but the form of its arrest is such that it shows the embeddedness in (and coherence with) the larger world, from where its being arrested. This showing sustains its claim of concreteness and makes it concrete. While the scientist's theory is relatively abstract, the historian's narrative is relatively concrete". DPC brings emphasis upon 'relatively' because neither is science purely abstract nor is history purely concrete. Though it is a very interesting proposition that DPC has put forward, I am afraid that not many would agree with this proposition.

Bringing out the limitations of history, he says, 'we cannot elicit from the past what we need today, but what was not there in fact. In that case, in the name of using history we abuse it. History, strictly speaking, has no lesson to offer us. It is for us, the readers of today or tomorrows, to decide what we want to learn, rather to take from history, rejecting other textured parts of it. In order to learn from history the exercise often unwittingly undertaken by us in effect destroys the historicity of history. History itself, as I said before, is a modification of our total experience. If, in the name of extracting moral lessons from it, we modify it once again, history ceases to be what it is intended to be.'

DPC emphasises that unless history is defined as science there is no compelling reason why it should be required to offer causal explanations of the events of the past. It must not be forgotten that construction of history itself involves generalizations. If, in addition to this type of generalizations, further abstracts and general laws of science are imported into the realm of history, then what we get is scientistic (i.e. aping or apology of science), not scientific, history. DPC has argued that without radically departing from the nature of history, its style of presentation and the language in which it is written, we cannot fairly call it a science.

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DPC has denied any absolute quality to history. He explains, Historicism goes well with good relativism without compromising its objectivity and truth. That explains, among other things, why history of the 'same people' and the 'same' country, party or event required to be repeatedly written. Historical truths in their linguistic representation or conceptual reproduction are always repeatable and renewable, i.e. incomplete or open-ended. DPC emphasises that this is an important character which history shares with science.

Indian Culture

In his philosophy of history and culture, DPC emphasises the composite character of the Indian culture. He thinks that cultural conflict articulates itself in different ways and at different levels. Even within the rigorous philosophical systems of India, Buddhism, Vedanta and Nyaya, for example, we find conflicting trends, Vedic and non-Vedic, *nastika* and *astika*. Interestingly enough, the aspect of conflict is not the only, not even perhaps the main, aspect of the process of composite acculturation. It is the elements of accommodation, assimilation and reconciliation that dominate the elements of conflict. It is evident both from the works of the social thinkers and legislators, *Dharmasastra* and *Arthasastra*, and from those of the epic poets like Vyasa and Valmiki. DPC informs us that in these works the developing intellectual, ethical and social forms are transmuting the primitive elements of our culture. The ancient elements are given a touch of nobility and gravity, artistic excellence and moral loftiness.

Though the epics are dominated by the narrative consideration of the main stories, DPC points out that the underlying ethico-religious *(dharma)* tone is unmistakable. Never to miss variety, DPC brings out the mundane aspects of life also in the literary epics. In these works, aesthetic emotion, poetry, fiction and romance are imaginatively mingled with philosophy, ethics, and social and political ideas. The *Mahabharata* and *Ramayana* are *itihasa* on a large scale and with a massive purpose. The *Mahabharata* is the creation and expression not of a single individual mind, but of a mind of the Nation.

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On the other hand, DPC is fully aware of the historical importance of the epics. Though we appreciate the literary quality and poetic excellence of the epic we try directly or indirectly, to discern the factual aspects from the fictional ones of these many-sided narratives. We can hardly afford to ignore our will to know the past of our peoples in their specifics. In his writings, DPC consciously uses the term *aitihasika* (an adverbial form of *itihasa)* and avoids the term *historical* mainly to highlight the mode of consciousness of the concerned peoples themselves, their ways of life and thought.

About the origins of Buddhism, DPC explains that initially it appeared on the social scene as a spiritual presence and protestant force but gradually it was assimilated and engulfed by the new interpretation of Brahminism offered by influential thinkers and reformers like Gaudapada, Samkara and their followers. Compared to the Puranas, the *Bauddha Jatakas* appeared historically more significant to Kosambi. While he praises 'the most informative' character of the Jatakas, Kosambi is evidently unhappy with the Puranas [which] have 'the deplorable Brahmin habit of putting in an ordered sequence, the traditions that belong to different groups.' In other words, for the sake of an artificial social unity the writers of the Puranas, Kosambi thinks, felt free to distort the course and scope of events.

But DPC emphasises that the two great Indian epics, *Puranas* and the *Gita*, have a special importance of their own. "Because of their contextual richness and diversity they have been serving very important social purpose. It is well-known that the people of non-Brahman castes and women of all castes had been traditionally prohibited from studying the Veda. By implication the overwhelming majority of the Indians of the ancient times could have no access to the Vedic wisdom. Naturally, it gave rise to a kind of strong social resentment not only against the defenders of this view but also against the caste-related and gender-related hierarchy and discrimination. Most of the contents found in the Veda are also available in the epics and Puranas and to which all sections of people, irrespective of their caste and gender, had access (2006: 217).

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DPC believes that the *vaidika* and the *pauranika* modes of understanding and expression are highly symbolic, mystical and often rhetorical. Many writers of the Indian as well European tradition have pointed out the important distinction between the languages of mysticism, religion and poetry, on the one hand, and those of logic and science, on the other. DPC cautions that it would be wrong to suppose that mythical thinking has no structure in it. Without minimum structure, hidden or inarticulate in character, myths of widely different and (spatially) separated cultures would not have conveyed comparable or even strikingly similar messages/ meanings.

DPC also wants us to critically assess if the *sufi* and *bhakti* spirit of resignation and reconciliation, emotion and acceptance, adversely affected the critical temper and scientific research in India during the second millennium. One of the reasons why science did not have in India a career comparable to that of the post-Renaissance Europe is often attributed to the rise of devotionalism, mysticism, indifference etc.

History & Myth

In DPC's view there is a difference between history and myth. The truth about the mythical beings is to be traced to their origins, not history. The sanctity of the mythical institutions is to be found in their primordial past, not in their historically changing past. Historical explanation is not the generally acceptable explanation in the world of myths. In the world of myths gods and goddesses are ageless; if they are infants, they remain so for ever; if they are young and strong, they are so for all time to come; if goddesses are beautiful, their beauty never fades. Time is frozen in their life-story; history plays no notable part in the world of gods. The division of space into direction [east, west, south and north] and zones runs parallel to the division of time into phases *[ksana, muhurta, yuga, mahayuga, kalpa],* both represent merely different factors in the gradual illumination of spirit which starts from the intuition of the fundamental physical phenomena of light. In the mythical world, as in the physical one,

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space and time are indirectly, at times almost inscrutably but unmistakably related.

About the concepts of time, DPC believes that the biological or relativitized conception of time is different from the objective and impersonal theories of time dealt with in mathematical physics. Even if one forgets the Newtonian notion of absolute time, which flows in and for itself without being related to any external object, and is found to be impersonal, non-biological and, strictly speaking, 'absolutely relative' (relative to space), relation of perceptual time with the immobile/eternal time-in-itself may be dealt with, affirmatively or negatively, in very many ways, namely, metaphysical denial (of time), spiritual realization (of God Absolute), practical and scientific ordering of life, and intuitive plastic architectonic forms of things, arts and architecture.

DPC criticises the simplistic interpretation of Cassirer in relation to the mythical traditions of China, India, and Egypt. To think of a great culture and its historiography, whether of the east or the west, exclusively in terms of one or a few stereotypes is dangerously misleading. Every cultural personality, like individual personality, because of its ineliminable freedom and related creativity is complex both in its material and spiritual products, including religious and philosophical.

Concept of Number

DPC also explains the role of number as he sees it. In myths number does not play an exact theoretical or abstract role. To organize, relate and order the perceptual world of multiplicity, number is necessary. It sets limit to what seems to be unlimited. It relates things and ideas which are apparently unrelated. In theoretical and scientific thinking numbers is used mainly for explanatory purpose. But in mythical thinking it is loaded with religious and spiritual signification. Originally rooted in, or attached to, perceptual objects, number, gradually with the passage of time, assumes a relatively abstract and universal character. DPC explains that this psychological account of hypostatizing the nature of number,

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dissociating it from its perceptual point of origin, is a quasi-theoretical enterprise to bring about harmony into the seemingly chaotic things of the world.

He tells us that number is intimately related to the world of experience, of multiplicity, and is not abstract and/or distant from what it was realized both by the Pythagoreans in west and the Samkhya thinkers of India. The Samkhya system is essentially number-based and symmetric. Not only physicists but also prosodists are deeply concerned with number. From *Rta* to *Chandas*, from physical rhythm to poetic and musical rhythm, number pervades.

DPC has related number to history in terms of datability. Dating involves numbering. It is to provide a time-address of an event or a series of events on the map of a calendar. Calendar is a 'system by which beginning, length, and subdivisions, of civil year are fixed.' It has nothing to do with 'the inner measure' of time itself; it is only a human contrivance. In different countries we find different calendars, like Greek Orthodox, Julian, Gregorian, Sakabda, Vikramabda, Bangabda, etc.

DPC is however clear that merely by chronicling events one does not write history. To write history involves selection, rejection and construction. Physical connection, temporal continuity and chronological order by themselves cannot give us history. Meaningful coherence of dated events presupposes an aim or a point of view. When history is sought to be fashioned in the image of science, only then the question of tracing and showing causal connection makes sense. The western historians find in Kalhan's *Rajatarangini* a distinct respect for chronology and continuity, two of the characteristics often found to be associated with the datability requirement of the so-called scientific historiography of European origin. Kalhana himself claims to have given a 'connected account of what had become fragmentary'. But DPC holds the view that what filters through the minds, beliefs and actions, understandings and misunderstandings, writings and interpretations of these different kinds of persons and what reaches the readers, persons of the later times, cannot be 'true pictures', still less scientifically, i.e. testably, true pictures of the past. Historical truth is not like the scientific truth that is testable, repeatable and abstract,

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nor is quantifiable. Historical events are not measurable and therefore not datable in the strict sense, yet, DPC thinks that in a respectable sense history is objective.

Besides the Puranas and *vamsa-caritas*, another source of Indian history has been the bardic literature. The bards used to write poetry in praise of their patron-families. The bards remained custodians of their writings, the genealogies of their patrons. Bards used to attend the courts of the patrons and occasionally accompanied their patrons on their pilgrimage and military campaigns. Thus they had direct access to their lives and deeds. Because of their very nature, panegyric poems prove more faithful in their description of times, places, social customs and conditions than the character of the concerned persons. DPC however admits that the bardic literature, written in *bhasa* or vernacular, not in elitist Sanskrit, gives one, a more or less faithful picture of the concerned society and people. Thus, this source of history helps the historian to be both factual and literary at the same time.

On Islamic Tradition

Expectedly, the India of the first millennium AD, when the Sultanate and the Mughals had been the ruling powers at Delhi, is historically better available to us than the India of the earlier period. DPC admits that compared to the Hindus, the Muslims, generally speaking, were more inclined to keep records of their times and places in the forms of coin, inscription, official documents, autobiography and biography, etc. In the late medieval period of India, particularly during the Mughal period, many biographies and memoirs were written and they have proved a very rich source of information to the later historians. Autobiographies of Babur and Jahangir, and the biography of Humayun by Gulbadan Begam, of Akbar by Abul Fazal, and of Babar, Humayun, Akbar and Jahangir by Mutamad Khan deserve special mention in this connection. Abdul Hamid's *Padshah Nama* is a comprehensive account of Shah Jahan's reign. For the events of Aurangzeb's reign the best-known works are Muhammad Kazim's *Alamgir Namah* and Muhammad Saqi Mustaid Khan's *Maathir-i-*

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Alamgiri. It is clear that these books are of uneven quality and authority. For example, Abul Fazal's *Akbarnama* and *Ain-i- Akbari* are much more read and known for their accuracy and comprehensiveness.

DPC has also a word of praise for the Sufi tradition. The independence of the *sufis* is evident from their criticism of the inefficient and corrupt practices of the court officials. By professing Islam as their religion they were not prepared to support either the misdeeds of the Islamic rulers or look down upon the people professing other religions. That obviously enhanced their prestige in the eyes of the Hindus and their social acceptability. The teachings of the sufis in many respects anticipate those of Kabir, Nanak, Dadu and Caitanya. The poems and songs of the mystic saints undoubtedly brought about a significant change in the Hindu-Muslim relationship and thereby in the social milieu of the time. DPC believes that the mystic temper imparted by the *sufis* and the preachers of the *bhakti* cults helped to smoothen the rugged edges of the relation between the different castes and communities.

Regarding the nature of history, DPC is very clear: "History is what the historian makes of it". To call it science or art is external to its making, putting a label on it from without, a meta-historical act. He brings out the difference between two types of historical records. What had been written in biographies, memoirs, letters, literary works, etc. in the centuries long past were not, in most cases consciously intended to be history. The concerned persons narrated their recollections, experiences and impressions, judgments and hopes without knowing for whom and for what purpose(s) they left them behind. The case with the official records, gazetteers and manuals, etc. is somewhat different. These were largely, not entirely, meant for contemporary people and for any specific purposes. Differentiating between the two, DPC says that all these sources of history are source materials of what we call history today and not history proper.

With the detachment of a philosopher, DPC says that the perceptions of the historians change from age to age, from culture to culture, and even from person to person. For example, what

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India, together with its geography, philosophy, religion and culture in general, was like has been perceived and described quite differently by Alberuni (in the eleventh century), by the British historians of the last two centuries, and the post-independent Indian historians of this century. Alberuni' s geographical background, Kazak (Khiva) and Afghan (Ghazni), religious faith (Islam), favourable disposition to the Greek sciences of the time, his own status as a court scholar from a defeated kingdom, and many other personal and social details must have influenced his findings and judgments. DPC wants us to accept the plain general truth that human perception is more or less coloured by the concerned person's experience and expectation. The point may be clearly illustrated by referring to the difference in approach to the Indian policy issues of James Mill and John Stuart Mill, father and son, both of whom served the East India Company in the same department and at a very senior executive level. Despite their common, broadly utilitarian point of view, while the father was illiberal, the son was by and large liberal. The historian who believes in the primacy of narrativism is bound to differ considerably in his method of representation from the one who favours *causalism*. For the sake of added concreteness and specificity in historical narration, the role of individual human beings is extremely important, but *exclusively* in terms of an individual, intelligible historical narration is not at all possible.

Regarding the nature of history, DPC asserts, it is a humanistic study. It is about humans, by humans, and often for humans, present as well as future. Though a part of nature, humans, their actions and ideas, are not reducible to natural laws. Historical events, essentially products of human enterprise, cannot be subsumed under the laws of nature. Historical unpredictability is basically rooted in human freedom and creativity. The freedom that is available to humans, in spite of its *partially* determined character, is open to many-sided uses and misuses, constructive and destructive.

Coming down to more recent times, DPC makes some profound observations on Gandhi.

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On Gandhi

About Gandhi's views on Islam, DPC says, "From his writings it is clear, as he himself states, that in his early life he used to believe that the phenomenal expansion of Islam was mainly due to its military might. His subsequent studies in Islamic history convinced him that this development is to be understood in terms of *fraternity* and *loyalty*. Many of his Hindu critics, including even some Congress leaders, refused to accept this view of Gandhi. It may be mentioned here that, notwithstanding Gandhi's repeatedly expressed belief that he was *not* a scholar, it is clear from the list of books studied by him that his view on the Caliphate was really studied. I, for one among many, felt simultaneously pleased and surprised that a political leader like Gandhi felt the urge and took the trouble of studying Gibbon's *The Decline and Fall of the Roman Empire*. The chain of events leading to the rise of Ataturk and abolition of the Caliphate was carefully followed by Gandhi and only then he developed his own view. Difference between historical interpretations and change of view based thereupon are nothing unusual. Not only Gandhi but also many other political leaders like Jinnah (Pakistan) and Gorbachev (Russia) and philosophers like the Logical Realists *(Pracina Nyaya* and *Navya Nyaya)* in India and Russell and Wittgenstein in Europe, for example, did change their views in many matters-political, philosophical and religious. For example, both Russell (soon after the Bolshevik Revolution in 1917) and Wittgenstein, who also visited Russia in 1930s, influenced by different beliefs, including Bolshevism in practice, seriously thought of going to Russia and settling there. But Russell's own experience and Wittgenstein's second thought on the writings of Tolstoy, Dostoevski, Webbs' *Soviet Russia—A New Civilization* (1933) and the subsequent development in Russia obliged both of them to drop the idea at different points of time (2006: 119–218)".

DPC thinks that Gandhi fiercely defends freedom and, at the same time, as a Hindu and Vedantin, he believes in the identity of all human beings professing different religious faiths. He proclaims himself a devout Hindu and yet he strongly criticizes casteism, untouchability and other blemishes of Hinduism. For the basic

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lessons of life, Gandhi always turns to tradition, the school of practical experience, and not to history which, to him, is concerned only with 'facts', 'wars' and 'kings' and not with the life, love and sacrifice of the common human beings. For example, there are hundreds of passages in the Koran, which will be perfectly acceptable to the open- minded Hindus, and that there are many maxims in the *Gita* which accord well with the teachings of Islam. Religious antagonism is often due to our failure to get to the core of our respective religions and adhere to it. Gandhi believed that the supposed incompatibility between Hinduism and Islam is in most cases externally implanted by the Western historians.

DPC observes that the lack of moral accent of contemporary historiography makes Gandhi very unhappy and time and again this takes him back to the voices of wisdom of the ancient civilizations and the classics of human literature. It is clear that Gandhi's philosophy of history, when it is spelt out, would be a sustained dialogue between the common practice of the people and the elevating moral principles found in the best writings and lives of the past. In freedom, love and morality people attain their best possible unity and their history discloses its highest glory.

Today globalisation is a much debated issue. DPC has his own views on this issue.

On Globalisation

DPC explains, "Spread of education, fast transport systems and increasing frequency of travel of the people between different parts of the world have been steadily contributing to the forces of the global unity. Perhaps the most influential force at the moment is information technology and the efficacy of mass media based on it. The threat of nuclear weapons has been slowly receding not only because of gradual realization of the catastrophic effects of a possible nuclear warfare but also because of increasing realization of the importance of peace as an imperative. Some cautious critics of science and technology as knowledge are somewhat sceptical about this optimistic view I am trying to defend. They point out that what

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we call knowledge-based society is in fact a power-driven society in disguise. To me this critical attitude towards the influence of science and technology seems to be both one-sided and unfair. I do not deny that knowledge has been and may be used as an instrument of power. But that does not take away its salutary effect and beneficial influence on human beings and their efforts to build a better and saner world (2006: 199–218)".

DPC warns that the composite (helper-wrongdoer) image of economically influential and politically powerful countries like the USA and its allies is casting its shadow on the developing countries. In his vision of the future, the uni-polarity of the last decade of the twentieth century is likely to yield its ideological space to the tri-polarity in the next thirty years or so.

He thinks that multi-polarity is the natural outcome of the normatively supervening role of the principle of autonomy. This principle is so fundamental to *the ideal of world-union,* as distinguished from *the idea of world-state,* that without it no durable form of human unity can possibly emerge. Therefore, in the name of idealism—economic, political and moral—we must not unwittingly espouse a kind of globalism, which is inconsistent with the principles of autonomy and suppress the true identity of different countries. For this purpose the policy-makers are required to be engaged in a sustained and practical historical dialogue with what has happened to the mankind and its different continental segments in the past.

DPC warns that the distinction between what is pleasing and what is aesthetic is being steadily and effectively demolished by what is called entertainment industry, a clever blend of commercial enterprise and cultural initiative. As a result of strong, sustained and continuous publicity blitz the culture-specific tastes and dispositions are transformed, often mutilated.

DPC, as a philosopher, has his views on time and reason as well.

On Reason & Time

If nature as it is *now* is clearly intelligible, DPC asks, what is the use of bringing the past to bear upon it, to make it intelligible? To most

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of them time is a category of understanding *(Nyaya)*, or a form of perception (Kant), or imaginary (Buddhist). In brief, time is taken up as a category of existence or an epistemological principle necessary for what is received from without or/and within. To Descartes and Kant, for example, history is not a reliable form of knowledge. Preoccupied with the questions relating to the validation of scientific knowledge, they found no strong reason for addressing themselves to the problems of the historical mode of knowledge. The past, the Buddhist thought, is alternatively constructible, mainly due to imagination *(kalpana)*.

DPC explains that scientific reason, as ordinarily understood, is concerned basically with the (causal) *order* or teleological (unitary) character of different events. Whether events themselves are ordered or order is imposed on them by the human mind, (particular or universal) are the kind of questions, which have been long dealt with by philosophers, scientists and theologians.

Compared to sociology and anthropology, intriguingly DPC believes that literature can give us a relatively vivid picture of the past. The non-cognitive aspects of the vanished centuries are practically available to us through the surviving rites, rituals and their analogues. As noted before, many of our modes of experience are neither discursive nor cognitive, still less scientific.

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Binod Kumar Agarwala

Religion, Philosophy and Science

When I received Prof. D. P. Chattopadhyaya's *Religion, Philosophy and Science: A Sketch of a Global View* I accepted it for discussion presuming it to be a study in philosophy. Although my presumption was disproved as soon as I started reading it, I am still looking for an answer to the question: What discipline does it belong to? Does our inability to find a discipline to put it under, show that it is interdisciplinary. It does not appear to be so. A discipline is the compulsion, by which the constant tendency to disobey certain rules is restrained and finally extirpated. So, interdisciplinary is that which takes upon itself the restraining compulsion of multiple disciplines. The volume under discussion accepts no discipline and cannot be classified as interdisciplinary.

Let me substantiate my claim. The chapter VII of the volume is entitled 'History and Geography of Science." But when we look into the chapter we find that in the second paragraph the author makes the claim, "Most of the philosophical and scientific ideas of the ancient and medieval periods are traditionally attached to different religions..." (87) And then the chapter discusses definition of religion, ideal of universal religion, characteristics of religion and takes an excursion into Vedic and its ancillary literature and Hinduism. Now one fails to understand how the chapter is about 'science' and how the chapter has dealt with its 'history' and 'geography'. Hence I have claimed that the volume accepts no discipline and fails to be interdisciplinary.

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There is a deeper malaise in the volume, which arises due to the author's inability to decide what he is going to write on. Firstly, as the title indicates and the Prologue claims, there are three main themes in the book: *Religion, Philosophy* and *Science.* (1) But in the prologue itself he states another aim: "To put the issue in concrete terms, our studies are purported to show that the so-called purity of human race is a myth. Our studies also highlight that the purity of a language is a fiction. In fact, the cultural space of the globe knows no boundary. Our division of land mass of the earth is a convenient and useful devise of understanding. But history itself, when gone into details, makes it plain that the boundaries of the countries and cultures on the globe have been always undergoing change. The physical features of the earth like rivers, seas and oceans, deserts and mountains, rightly understood, are not really dividers but have been acting as connectors. The movement of the human races from place to place, from time immemorial to the modern age, when we speak in terms of globalization, we just remind ourselves that the concerned processes are not radically new. But the same has been surviving in our archaeology, history, philology, philosophy and science. If this book of mine, even in its present sketchy form, helps the readers to be conscious of the global dimension of human heritage and its endless future, I shall feel rewarded and fulfilled." (10) But the author fails to realize that these two aims require entirely different kind of volumes. The second aim will require the author to go beyond the three themes and delve into social history to find how different races have got mixed leaving no purity of blood anywhere. Similarly he will be required to go beyond the three themes to include history of languages to show how they have grown interacting with each other. But by the time we come to the Epilogue we find that he has more or less lost track of these two aims and without spelling it out explicitly he is now looking for bases of global unity, and none of the three i.e religion, philosophy and science can fit the bill. The author acknowledges that crusades, wars of religions, and the holocaust "make it abundantly clear that religions, both major and minor, have largely failed to work efficaciously as a potent force of unity." (203) Byproduct of modern

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science like information technology is no doubt making movement towards global unity possible, yet he must be aware that the same technology with respect to the issue of its control is also dividing the globe. Philosophy in the form of Marxism and materialism no doubt worked to some extent for global unity, yet the author is aware, I am sure, the same ideology is now questioning liberalization leading to globalization. Similarly mere argument, showing that in the past also the movement towards globalization was going on, is of no comfort; what the author is bothered about is that this trend can be halted and we may not achieve global unity. So now he is required to write a different kind of book than what will be required to be written if only the first two explicitly stated aims are to be achieved. This third has to be a book in political thought. This wavering between the three aims has produced a thematically loosely organized book.

The counting of *three* main themes, i.e. religion, philosophy and science, indicates that the volume accepts the distinction between the three themes, which is a very recent historical development. The very attraction of the three themes is because of the modern understanding of these topics. Otherwise it would make no sense for the author's disclaimer that he is not a religious person. Yet he is constantly conflating the three. Chapter VII is entitled 'History and Geography of Science' and hence gives rise to expectation that only science is thematised with the intention of studying its 'history' and 'geography'. But the very first sentence which is a question belies the reader's expectation and indicates that the author is conflating the three main themes indicated above. The question reads: "How did the religious, philosophical and scientific in the historically past geographically separated intellectual networks develop and interact effectively?" (87) What he is thematising in this question is the intellectual networks of the religious, philosophical and scientific ideas which are separated historically and geographically to find out how these different constellations of religious, philosophical and scientific ideas interact. Even after raising this question the chapter does not attempt to answer this question at all. Rather the raising of the question is just a step in a

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further transformation of the theme to be discussed in the chapter. The 'science' to be thematised as indicated in the title via this question turns into 'intellectual networks of the religious, philosophical and scientific ideas' and as indicated above finally reduces to actual thematisation of 'religion,' and that too specifically 'Hinduism'. In a way the volume seems to equate philosophy, religion and science.

The volume starts preparation for this conflation of the three themes in the last paragraph of chapter I entitled 'Prologue' where he writes, "The overlap of science and philosophy is more or less universally acknowledged. At times this view is expressed in a more radical way: philosophy is science in its pre-experimental and speculative stage. Philosophy has also been described as anticipation and precisification of philosophical truth-claims. There are several other versions of the intimate relation between science and philosophy. Some philosophers have stated that philosophy is science, neither more nor less..." (10-11) This theme of equation of philosophy and science is further 'analytically expanded' (12) in Chapter II entitled 'Historical Perspective'. 'Historically speaking, the emphasis on the distinction between philosophy and science is of relatively recent origin.' (12) Since the volume accepts and works with this recent distinction and here is a chapter on historical perspective, does one not expect from a historically sensitive volume to explain the difference in understanding of 'science' in classical times and recent times and the same expectation holds good for 'philosophy' too so that we have an explanation at hand why classical thinkers with their understanding of 'science' and 'philosophy' could equate the two but moderns with their distinct and different understanding of the two cannot equate the two and have to distinguish them? But in the chapter under the title 'Historical Perspective,' what do we find? A catalogue of thinkers who did philosophy, made scientific discovery or invention and also some times dabbled in religious mysticism. This is a strange but fallacious logic to show the intimacy or even equation of science with philosophy.

Even if this historical perspective is not made use of as evidence of equation of philosophy with science and evaluated as an

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independent historical account of development of science or philosophy, it is still a failure. The discussion betrays complete lack of historical sensitivity. Mere chronological ordering of biographical details of philosopher scientists does not make it a history of philosophy or science or both. Historical sensitivity is exhibited only in how we interpret this chronologically ordered data. There is no interpretation of data in the chapter under consideration.

Rather it is the next chapter, i.e. chapter III entitled 'Recalling the Scientific and Philosophical Basics of the Ancient Civilizations,' which begins with interpretation of historical data. The chapter begins, "For understandable reasons (i) Man, (ii) his Environment, and (iii) Nature, both atomic and cosmic, subtlest and vastest, occupy the central position in the human quest for knowledge. One finds this trend, this quest for knowledge, universal but for practical reasons I would refer only to such ancient civilizations as (a) the Hellenic or Mediterranean, (b) the Mesopotamian, comprising the Babylonian-Assyrian-Akkadian-and-Summerian areas, (c) the Iranian-Indian and (d) the Chinese." (22) This kind of sweeping generalizations betray complete lack of historical sensitivity. Even though the scholarship exhibited in the chapter is breath taking, it fails to discuss, let alone substantiate, this tall claim with respect to the civilizations mentioned in the quotation above. In fact available data with respect to Hellenic civilization, which I am aware of, goes against this sweeping generalization. Quest for knowledge in the Hellenic world began much earlier than the gaze turned to man. Man began to be the focus of attention in Hellenic civilization only with sophists. That was also the period when the concept of *phisis* (nature) was articulated. To work with such subtle distinctions like environment and nature, while studying ancient civilizations, is quite anachronistic and throws no light on the vast range of their concerns.

Another sweeping generalization the chapter contains is: "Every philosophical or scientific system of thought is required to address the question of the relation between (i) One and Many, (ii) Being and Becoming, (iii) Being and Nonbeing and (iv) that of the ultimate stuff of the world underlying all things and beings. Each

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one of these concepts or categories, on scrutiny, turns out to be only of possible or actual object of experience." (24) Since this is an unrestricted generalization, I fail to understand how one can fit this generalization to contemporary linguistic philosophy. Even if it is taken as generalization regarding ancient thought it is a very hasty generalization. Take the example of Hellenic thought once again which equated science with philosophy. To talk of 'empirical science' is crash absurdity for the Hellenics. Science deals not with the changing object of *aesthesis* (experience) but with the invariable world of *nous* (intellect). Hence for them mathematics was the paradigm of science. So to claim that every scientific system of thought must concern with possible or actual object of experience is not true for the classical period. The error in thought is occurring because the volume is implicitly working with modern understanding of science where science is empirical science with modern physics as paradigm of science, yet the volume insists explicitly on equating science with philosophy (e.g. 'philosophical or scientific system of thought is required' as if there is no distinction between the two sides of the alternation) like the classical thought without realizing that the Hellenics had an understanding of science which is different from the modern understanding.

Understanding of religion, with which the volume works with, is also very faulty. It is claimed, "Generally speaking, religion in several major languages of the world, stand for the principles which bring, bind and hold people together and take them forward." (87) This fails to provide proper distinguishing mark of religion. In fact many political isms, like liberalism, will pass this test and many religions, which have blocked the progress of the believers, will fail this test. The volume also claims, "When we go deep into the history of denominational religions, two aspects of it appear clearly before our mind—hegemonic and harmonic. History of such major religions like Christianity and Islam is marked unevenly by their harmonic and hegemonic phases." (204) It is not merely denominational religions but also nationalism and secular state organization which have both these features. It is also a surprising fact today that in north east India, in spite of the spread of

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Christianity, there is no stopping of ethnic conflict and also there is no evidence of any hegemonistic tendency of religion here. The volume acknowledges that crusades, wars of religions, and the holocaust "make it abundantly clear that religions, both major and minor, have largely failed to work efficaciously as a potent force of unity." (203)

Difficulty of the volume in understanding religion arises due to its faulty premises made explicit in the prologue. "The history of Religion, Philosophy and Science is essentially human. Whether we discuss Religion in its extended sense of *dharma*, ethics or *religere* (Latin), all the concerned ideas and activities, analysis, will be found to be of man, by man and for man. Man by his very nature is social, sign using or semiotic, and technique-using or technological. In the archaeological or historical context whenever we speak of tools, hand-tools or machine-tools, transport, from wheeled cart to engined machine, we assume the concerned human capacities, explicitly or implicitly." (10) To understand religious ideas and practices in Marxian lines and to put them in the line of Abraham Lincoln's definition of democracy and claim regarding them that these are found to be 'of man, by man and for man' is questionable, as it brings in no reference to God as admitted by Semitic religions, or various deities as admitted by so called pagan religions, or any transcendent reality admitted even by those religions who accepted no God. This Marxian understanding of religion denies the very essence of religion.

Similarly the claim that man by nature is technological is quite questionable. Man does not become technological merely because he uses tools or technology. Then, many animal species will qualify as technological for we know of animal species which use tools and build their nests and hives. Man becomes technological only when he self-consciously becomes aware of techné, which is a much later development for mankind. From the use of tools or from techne to argue for implicit or explicit capacity for science is all the more questionable. For it is based on the naïve assumption of some that technology is always driven by knowledge, and especially by scientific knowledge. This "science leads technology" theory is accepted

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unquestioningly by some of us. But the linkage between science and technology developed only under some suitable conditions which obtained much later in modern times. Central though it may be to the history of the industrial revolution, the case of atmospheric pressure and the steam engine is far from typical. Until the latter part of the 19th century, technological progress did not in general rely on scientific progress. Few of the inventors responsible for the astonishing wave of innovation between 1750 and 1860 were scientists; most were artisans or engineers with little or no scientific training. They were men of common sense, curiosity, energy and vast ingenuity, standing on the shoulders, not of scholars, but of similarly practical types. Their goal was not to understand, but, as Watt said of his own efforts, to make machines that worked better and (he emphasised) at lower cost. And remember that, for every one who succeeded in this aim, perhaps another hundred tried, at great expense of money and time, only to fail.

This was true across the whole range of 18th-century industries. For about 100 years after 1750, radical innovations in shipbuilding, mining, metallurgy, textiles, food-processing and machine tools were the fruit not of scientific breakthroughs but of indefatigable trial and error, under the guidance of experience and craft tradition. The improvements in cotton-spinning that were soon to transform the British economy—from Arkwright's spinning machine to Crompton's mule—had not been waiting upon science. So far as science was concerned, these technologies could have been invented decades or even centuries earlier.

At the start of the 19th century, a Frenchman, Nicolas Appert, found that food could be preserved in bottles that had been boiled and sealed airtight. Within 20 years, tin-coated cans came into use. It was a crucial innovation for the development of urban society. But Appert did not know why his process worked, nor did anybody else. Louis Pasteur did not discover the role of micro-organisms in spoiling food until 1873. First came work, inspiration and luck; later, chemistry.

After 1860 or so, gradually at first and then more rapidly, science began to play a bigger role. Chemistry was indeed the first industrial

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science. Soon the better understanding of chemical phenomena gave rise to new industrial techniques and, more important, to new materials and entirely new goods. When physics became an industrial science, the results were even more startling: electricity and telecommunications. Thomas Edison, a remarkable pioneer in these fields, was a transitional figure. He was trained as a telegraph operator, not as a scientist. In 1876 he set up his legendary "invention factory" at Menlo Park, New Jersey, began hiring scientists, and set them to solve industrial problems. It was the first industrial research laboratory: the modern pattern was established.

Yet the fact remains that the decisive break between the economic stagnation, which kept most of mankind in poverty for thousands of years, and the modern era of rapid innovation and growth occurred fully a century before science was harnessed to technology. Moreover, western science had already moved significantly ahead of that of other societies by the beginning of the 17th century; yet the West was no richer at that time than those other societies. It was another 150 years before the real surge in western growth began. The link between science and technology is subtler than one might think.

More was achieved in technological innovation during the five or six "dark" centuries after the collapse of the Roman empire than in its heyday.

In its day, ancient Greece was pre-eminent in science. But the scientific knowledge of Aristotle and his students was never translated into technology or applied in the economic realm. The Romans continued that tradition. Far ahead of the barbarians of early medieval Europe, they also established what many today regard as the preconditions for growth in the third world and in the ex-communist economies of Eastern Europe—physical infrastructure and the rule of law. Yet more was achieved in technological innovation during the five or six "dark" centuries after the collapse of the Roman empire than in its heyday. One example: among the most significant innovations of the early Middle Ages was a horse-collar that did not half-throttle the animal as soon as it began to pull with any force. The sophisticated Romans had accepted this

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handicap, and the flimsy chariots and lack of heavy transport that went with it, for centuries. So to argue for existence of science from the fact of availability of technology in ancient civilization is a faulty piece or reasoning.

In the last chapter i.e. chapter XII entitled 'Epilogue: Naturalism, Humanism and Beyond,' the volume tries to make clear the theoretical underpinnings and theoretical nexus behind the three main themes—religion, philosophy and science. "In order to make the thematic relations clear I propose, at this stage, to state in brief their conceptual underpinnings and theoretical nexus." (199) The author here arouses expectation which he never fulfills. The entire chapter tends to argue for global unity and its causes, which he ultimately locates in human consciousness, and makes no attempt to make clear the theoretical basis of the three main themes.

If we keep the three main themes in mind then the volume suffers from organizational looseness. From page 2-9 devoted to some arheological findings do not fit with the theme of the volume. For these findings are never made use of in delimiting the scope of investigation or directly for throwing some light on the main themes of the book. However dear to heart these findings may be to the author, as far as the volume is concerned, it is unnecessary like the warts on a face.

Inspite of the fact that the volume lacks conceptual clarity with respect to the three main themes, it has another subsidiary aim, i.e. showing past trends towards globalization, in which the volume succeeds to some extent, if not fully, and in fact it appears to be controlling the organisation of the volume to some extent. The author's vast scholarship and erudition clearly brings out the cross fertilization of ideas from different parts of the old world in religion, philosophy and science. As the author has left out from his purview a large part of the globe, the proper subtitle for the volume should have been 'A Sketch of an Old World View.' In fact it is this subsidiary aim that accounts for the placing of discussion of 'Auxiliary Linguistic Hypothesis Supporting the Theory of a Continuous Cultural Space' in chapter IX. Otherwise the chapter has nothing

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to do with the main themes of the volume as it draws no conclusion regarding them.

The volume, in specifically those chapters where the three main themes are discussed and the so called global view is advocated, is marked by loose rambling stream of consciousness style of writing. The chapter XI entitled 'The Magic of Zero, Gun and Gunpowder' crosses all limits of rambling.

The transition from the so called discussion of zero to the so called discussion of gun and gunpowder is via the following claim: "That knowledge is a virtue or *dharma* is perhaps universally acknowledged. But that it is also an instrument of empowerment, both politico-economic and military, is not universally accepted. The religious orders of the most of the imperial powers are firmly committed to maxim of proselytisation by force if necessary. It is from this point of view I would like to write on very important issues like origination and invention of gun, powder and canon." (191) First of all, truth of the following claims is doubtful: 'That knowledge is a virtue or *dharma* is perhaps universally acknowledged. But that it is also an instrument of empowerment, both politico-economic and military, is not universally accepted.' Now a days we have less adherents of Socratic dictum 'knowledge is virtue' and more adherents of Bacon and Foucault's dictum 'knowledge is power'. But what is more objectionable in the author's claim is what he does not state explicitly but implies implicitly. When knowledge is virtue and knowledge is empowering, he implies that it is the same knowledge that is virtue as well as empowering. This is implied by the use of the expression 'it is also'. He never for a moment stops to think that knowledge that is virtue is different from the knowledge that is empowering. It took nearly two thousand years for mankind to make transition from understanding the one to understanding the other. The reader keeps wondering how the author can, without arguing, presuppose that the same knowledge is virtue as well empowering.

The chapters, where only specific local themes are discussed, like 'Spread of Islam and Sufism in India', 'The Civilisational Dialogue between India, China and Some Neighbouring Countries'

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bring out the best in the author to the fore. No doubt, due to vast scholarship of the author, the volume contains a wealth of information on the Islamic culture and religion, rise of universities, etymology of words like 'mathematics', yet on the whole the reader is left dissatisfied by the volume, because of its failure to organise nuggets of information into any coherent whole with any clear objective. If the primary aim of the author is to fight against the politics of narrow identities in the age of globalization then the volume under review is too indirect to be of any help in achieving the objective, and hence he needs to write a different volume.

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Sandhān, Vol. VI, No. 1, January–June 2006

BOOK REVIEWS

Aruna Mazumdar, *Explanation of Natural Events and Human Actions*, New Delhi, Chronicle Books, 2005, pp. x+162, Rs. 550.

The major focus of the book is to explore the distinction between natural events and human actions. While natural events are generally understood in terms of causal explanation, human actions are accounted for in terms of justification and ascription of responsibility. Uniformity and determination are hallmarks of natural events. Human actions, on the other hand, are constituted by intention, belief, value, meaning and freedom. However, this book highlights a much complex relationship between events and human actions, meandering around the nuances that lie underneath. It shows both sides of structural compatibility as well as incompatibility between the two. The author also cautions against either exclusive division of one from the other, or equating the two. Distinguishing as an act is not the same as making division or identification. This idea seems to be the methodological *sine qua non* of this book

The Introduction to the book by D.P. Chattopadhyaya maps out the evolution of the ideas of natural events and human actions in the history of philosophy. He traces the naturalist or reductionist approach to the distinction between 'the physical' and 'the mental' as centring around the concepts like extension, coercion and their affined cognates. Both the western and Indian traditions are found to have dealt with the problem. One finds Cartesian-Lockean-Kantian philosophies in the West on one hand, and Samkhya and Jaina philosophies in the Indian tradition on the other. Professor

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Chattopadhyaya further sees that the problem has re-emerged in the controversy between naturalism and anti-naturalism in the context of natural events and human actions in the Anglo-American philosophers like Wittgenstein, Quine, Davidson, etc. The debate still goes active, to which Aruna Mazumdar's present book supposedly adds a new dimension.

To make the distinction much more pronounced and clearer, the author makes emphasis on human action as 'non-natural human action'. This is precisely to highlight the opposed distinctiveness between the realms of the 'natural' and the 'non-natural'. This exercise, the author rightly emphasises, is a meaningful way of asserting 'autonomy' or 'quasi-autonomy' of the 'human action' discourse against the 'natural world' discourse.

The author further suggests that the distinctiveness between the realms of events and actions has to be based on the nature of rationality we provide in the entire discourse. It is on how we construe the meaning of rationality and its various modes of justification and explanation that will clear the distinctiveness between the two. The question that the author addresses is: Can there be a single, uniform standard of rationality for all areas of enquiry? The author traces various positions held by different philosophers to doubt the possibility of a positive answer to this vital question. She brings into focus a range of definitions of rationality, some of which position rationality as either 'ambiguous and of different kinds' (Swineburne), or impossibility of having one comprehensive rationality (Feyeraband), or rationality as 'ability to criticize' (Popper). On the other hand, there are absolutist notions of rationality (Plato and Hegel), which emphasise on criteria-independent nature of rationality in the sense that rationality requires no other criterion of justification except itself. An idea of unconditionality prevails in the absolutist notion.

The author takes exception to Donald Davidson's position as argued in *Essays on Actions and Events*. Arguments have been employed to counter Davidson's arguments which claim that human actions be seen as constituted by bodily movements. Though Davidson makes a distinction between human action and natural

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event making law as criterion for distinction, his providing space to causally related explanation of human action has been strongly critiqued by the author. She sees Davidson's causal relations as essentially "nomological and based on induction or knowledge of serious law" (p. 137). Davidson is seen as engaged in explanation of action through rationalization.

Interestingly, the book also hints at theoretical formulations of the existentialists where human action is understood ontologically with intentionality and freedom. However, the author has not paid enough attention to this aspect except in the Postscript. This is understandable as the book falls both in its content and methodological engagement in the analytical discourse. But acknowledging the existentialist perspective as a meaningful alternative to understanding the distinction between action and event is a commendable move. In that sense, the book is a beginning towards a larger engagement, which perhaps can be pursued by the author in times to come.

The framework of methods engaged in the book consists of drawing attention to the nature of cause and causal explanation followed by study on various explanation of action. It further studies the ideas of 'compatibility' and 'non-compatibility' by attempting to analyse action through causal explanation. To put her position much clearer, the author engages causality as anti-thesis of freedom. Perhaps it is here that she expresses the need to highlight the existentialist emphasis on human freedom, though not adequately. The book certainly captures much-nuanced argumentations on the nature of cause and causation to the extent of discussing the logic of causal discourse. It is within this discourse that the author suggests that if the term 'rationality' and its methods are to be engaged in every form of explanation then perhaps problem of dichotomising events with actions can be resolved by treating them as two sides of the same coin.

However, the readers may face few difficulties at couple of areas. For instance, the book does not seem to give a clear-cut position on the issue of rationality and causation vis-à-vis human actions and events. Of course, she admits that this is part of a continued project. The first problem, among other difficulties, that the reviewer faces

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is this. The author suggests that the common ground between event and action lies not in the subject matter but in the purpose. This shows perfect clarity in argument. The purpose of explanation both in the case of event and action is "to make intelligible the worlds of events—sometimes natural and sometimes unnatural" (p. 133). What also follows is that both *cause* (positive sciences) and *situation* (social sciences) are mode of explanation either to make intelligible an event or an action respectively. Further, *rationality* or *intelligibility* is seen as "the claim of both types of explanation, and this rationality constitutes the logical unity of events (natural) and actions (human)" (p. 133). So far as typology of explanation as either *cause* or *situation* is highlighted, it makes perfect sense. The problem lies in the author's not clearly spelling out if *rationality* is to be seen as claim/purpose of explanation, or an aggregate name for different types of explanations (cause and situation, here). If rationality is seen as the latter, it makes very little sense to talk of a singular rationality under the heading of one name. It may have to be then explained through *family resemblance.* Of course, attempts have been made to make a distinction between causal relationship and intentional relationship. But this does not answer the problem. If rationality is considered in the former, mere intelligibility cannot decide the nature of event and action. It is much more important to see how one presents one's case rather than merely say that one proposes to present. The problem arises because the author seems to hold both the following positions together: (i) there is logical continuity in the explanation of event and action, and (ii) that 'explanation of human action cannot be equated with that of natural events' (p. 138). The two seems to be opposed if not contradictory. Perhaps, the author's answer lies in making a distinction between 'identity' and 'similarity'. This part requires much more detailed discussion.

Another question that needs further reflection is if the idea of logical continuity in (i) of the previous paragraph is accepted, one wonders how one critiques Davidson's showing continuity to causally related explanation of human action.

The third problem that calls for finer handling is on the author's claim that logical unity cannot be understood demonstratively, but

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to simply understand them to be so. An elaborate explanation is called for to distinguish between what she calls 'demonstratively understand' and 'understand as so' (p. 133). This distinction shows relevance in terms of bringing axiological content into the discussion on these different typologies of explanation, which the author herself hints at very briefly.

The author, of course, has taken up several related key concepts such as 'explanation', 'reason', action', 'freedom', etc. These are being taken up to highlight various dimensions (applicability and limits) of the concepts of 'cause' and 'causation'. The main argument in the book is that explanation of human actions cannot be equated with that of natural events. Opposing freedom with causation has also served as one of the arguments to validate the distinction.

The book has employed various debates on the nature of cause and causal laws. Philosophical positions of C.G. Hempel, E. Nagel and M. Black have been studies in detail. Donald Davidson's position on causal explanation of event and action has been critiqued. Overall, the book has touched upon major issues related to the nature of various types of explanation about natural event and non-natural human action.

The book will be useful for researchers working in the areas such as methodological issues in social sciences, philosophy of action, causation and rationality, and also those working on human freedom and intentionality. Students interested in philosophy can equally benefit reading it. The major strength of the book lies in its engaging presentation of the arguments. In fact, it engages the readers into a lively debate as they stride into the text.

BHAGAT OINAM
Associate Professor
Centre for Philosophy
School of Social Sciences
Jawaharlal Nehru University
New Delhi

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Sandhān, Vol. VI, No. 1, January–June 2006

Gian Giuseppe Filippi, *Mrtyu Concept of Death in Indian Traditions* (Transformation of the Body and Funeral Rites), New Delhi, D.K. Printworld (P) Ltd., 2005, pp. xiii+271, Rs. 320.

"Mrtyu jedin bolbe jago prabhat holo tomar rati
Nibhiye jabo amar gharer chandra surjya duto bati."

(The day death will tell me "your night has ended into the dawn,
now get up"
I will put off the two lamps of my room, the moon and the sun,
and then will proceed.)

– Rabindranath Tagore

In our contemporary intellectual concerns death does not have much of a presence except as an unwelcome sociological fact related to health, medicine, psychiatry, poverty and natural calamities. This attitude harbours an attempt to avoid or to sublimate the fact that death is a perennial part of life. Furthermore, this attitude also represents a reluctance to face death as a perennial existential reality and not merely as an accidental byproduct of socioeconomic factors or sudden caprices of nature. In contrast, ancient societies appear to have shown a greater readiness to face the fact of death and understand its implications for human beings. This relatively more open attitude to death still largely survives in a traditional society like the Indian. Gian Giuseppe Filippi has produced an

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admirable work in which he studies—he also often enunciates and elaborates—the concept of death in Hindu traditions. His study is 'Indological' and not 'ethnological' in character even though the intent of the study is to understand the contemporary Hindu beliefs and practices regarding death. His study is thus based on material drawn from Sanskrit texts. The texts used span from the Vedic to the medieval. This span reflects the author's belief that the contemporary Hindu concept of death and the ritual practices associated with it continue to be the same as they were in ancient and early medieval India. Dr. Filippi's treatment of the theme combines critical scholarship and mastery over a wide range of texts with a remarkable breadth of perspective. This combination, in fact, gives the book its strength and charm.

While in the Western perception death is presented mainly as an antithesis to life, in the traditional Indian perception death is contrasted not so much with 'life', as with 'birth'. Moreover, this contrast is not totally antithetical in character: birth and death are viewed as representing, as though, two crucial gates through which all beings have to pass than as the beginning and end. Death in Hindu view thus signifies not so much of a cessation of life as of an entry to a new order of existence. Death is viewed as a renewal. Birth and death in Hindu view are not antithetical also because they share certain common features: both usher in a new existence, both may signify the acquisition of a new body. Thus the real contrast is not between 'jivana' and 'mrtyu', or even between 'jati' and 'marana', as between 'bhukti' and 'mukti'. Thus the concept of mortality, and therefore, that of immortality in the Hindu world are different from those in the Semitic and Western worlds.

The degree and depth of this difference increases as one moves across the various strata of Hindu beliefs and attitudes—from the popular to the sophisticated, from the Puranas to the Darsanas. In the popular Hindu beliefs reflected in the Puranas, Dharmasastras and some other later texts dealing with after-death rituals we encounter certain beliefs and practices that are reminiscent of the concept of afterlife in the Semitic world. For instance, in some early medieval epigraphs we find references to the heavenly nymphs

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rushing out to welcome a deceased hero to the paradise. Furthermore, in the popular depictions Devas are represented as Amara (deathless). And in these popular perceptions immortality for the humans is depicted practically as a perpetuation of the earthly life in the paradise without the earthly ills. It is in this way that a Hanumana or a Parasurama was generally conceived as immortal. Similarly, the concept of various grades of purgatories for the deceased in accordance with the degree of his sin appears to be somewhat ill-fitting and intrusive as it does not accord well with the central strands of ideas regarding death and life expressed in the more philosophical layers of Hindu thought. These ideas generally rotate around the conceptions of Karma, rebirth and liberation. The inexorable principle of rebirth (Punarapi Janamam Punarapi Maranam) operates for all till the Moksa is attained—even Devas are subject to it. (See, for example, chapter VIII of the Bhagavadgita, especially the verses 16–27). The principle of rebirth does not offer room for the notion of human immortality conceived as the perpetuation of of human life in the paradise, as a life of endless pleasure and joy. Dr. Filippi deals with most of these issues with admirable clarity, skill and deep understanding.

Dr. Filippi, it seems, has proceeded to treat the theme by dividing it into two parts. While the first part (Chapters 1–8 of the book) covers the course of human life till death, the second part (Chapters 9–13) focuses on after-death ritual practices and beliefs associated with afterlife in the worlds of spirits and ancestors (Preta and Pitar). Although this schema is perfectly logical, there seems to be some disconnect between the perspectives of the two parts. In the first part the approach is holistic. The genesis and progress of human life has been depicted against the notions of such universal categories as Pancabhuta and Triguna and their various permutations and combinations to produce the distinctions between matter and life on the one hand and the distinctiveness of various forms of life on the other. In this part the perspective is candidly philosophical and the delineation is based on the texts of various schools of Darsana. It is the Hindu philosophy of life in its totality—the nature, meaning and goal of life—that constitutes the

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framework within which the theme in the first part has been dealt with. The author deserves unstinted praise for unerringly placing his finger on the very pulse, as it were, of the Hindu view of life. With consummate skill he brings together within a unified matrix diverse elements like various planes of existence (different Lokas), the Pinda-Brahmanda relation, the Pancabhuta and their manifestations in human beings, the play of Ahamkara, Buddhi, Tanmatra, etc., the roles of various Samskara, and so on. And he weaves this matrix against the central theme of the concept of death. It may be mentioned in passing, although it has not been overtly emphasized by the author that the meaning and significance of life in the Hindu view have been sought to be understood in the context of the fact that death appears to be the terminal point of life. Or to put it in a different way, it may be said that it is the fact of death that seems to have triggered the Hindu train of thought on life and its meaning. It is noteworthy that Kathopanisad and Bhagavdgita have death as the starting point of their incisive reflections on the meaning and goals of human existence. And, these two by all measures have to be counted among the deepest articulations of the traditional Indian point of view on life and human destiny.

While dealing with the second part the vision and the perspective of the author seem to have become somewhat shrunken. This to a certain extent was perhaps inevitable as the author in this part concentrates exclusively on the funeral rituals and the journey of the dead persons from the world of spirits to the world of ancestors, transition of the Preta to the status of Pitar. All the larger metaphysical questions about the meaning of human life and human destiny that permeate the discussions in the first part completely disappear in the second. And, in stead of the metaphysical questions, it is the esoteric issues relating to the world of spirits that take over the entire space. The reviewer does not question the legitimacy of discussions on the funerary practices and the rituals and beliefs associated with them. What the reviewer feels uncomfortable about is the unwillingness of the author to dwell upon the question of compatibility (or its absence) of the metaphysical issues discussed in the first part with the funerary

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practices and beliefs dealt with in the second. This remark, however, is not intended to undermine the value of the work produced by Dr. Filippi. It is a very fine and authoritative work and the reviewer congratulates the author for producing it.

SIBESH BHATTACHARYA
Former Professor & Head
Ancient History, Culture & Archaeology
Allahabad University
& National Fellow
Indian Institute of Adavanced Study
Shimla

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K.T. Pandurangi, ed. *Pūrvamīmāṁsā from an Interdisciplinary Point of View*, New Delhi: PHISPC, 2006, pp. xxxviii+654, Rs. 1950.

This is perhaps the most comprehensive and profound publication on the Mīmāṁsā system of Indian philosophy. It is outstanding in its conception itself, that is the interdisciplinary viewpoint taken up in its execution. The whole work is divided into five sections. The first section entitled *Pūrvamīmāṁsā before Jaimini* consists of three papers by K.T. Pandurangi, Ujjwala Jha and Samirana C. Chakravati dealing with the perspectives and scope of the system, shape of it prior to Jaimini and its roots in the Śrautasūtras. The section would have been richer by far had another chapter been added to it dealing with the origin of the system in the Brāhmaṇas.

As a matter of fact, the Vedic Saṁhitās are replete with references to sacrifice besides those relating to matters of spiritual nature. While the Upaniṣads are an elaboration on the spiritual content of the Saṁhitās, the Brāhmaṇas have dilated on the sacrificial to the extent to create the impression more or less even until now that sacrifice rather than anything else is the main subject-matter of the Vedas. What the Saṁhitās have just referred to incidentally, has been sought to be closely systematized by the Brāhmaṇas elaborately and cogently. It is by way of this kind of elaboration that *mīmāṁsa* has come to take its form in them. The Śrautasūtras are attempts just to summarise the conclusions reached in this regard in the Brāhmaṇas. A comprehensive paper on the roots of *mīmāṁsā* in the Brāhmaṇas, therefore, was a desideratum over and above a few references to them incorporated in the paper of Ujjwala Jha.

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The second section also comprises three chapters written entirely by the editor himself, the doyen amongst Mīmāṁsa scholars in the world today. In this section Mīmaṁsa has been deliberated on from the epistemological, metaphysical and semantic viewpoints. As per the nature of the publication, the author of the section has rightly set the Mīmāṁsā viewpoint in the broader perspective of the viewpoints of other philosophical systems of Indian philosophy and thus is able to bring some additional clarity to issues which have been the points of debate for centuries. If the clarifications made here are able to curb to some extent the necessity of the Mīmāṁsākas to go on just indulging in sheer debates instead of striving to formulate certain principles of agreement even amongst themselves, the publication would have served its purpose amply well.

The third section concerns itself with *Dharma* as the central theme of Pūrvamīmāṁsā and contains papers by distinguished scholars like K.T. Pandurangi, Shashiprabha Kumar, Sindhu Sadashiv Dange, T.N. Dharmadhikari and Ujjwala Jha. Centrality of *Dharma*, impersonal authorship of the Veda, Arthavāda, nature and scope of the Vedic Dharma, kinds of Vedic sacrifices, comparative study of Vedic *yajña* vis-à-vis Avestan *Yasna* along with Murari Miśra's contribution to Pūrvamīmāṁsā system are the topics included in this section. Sketches of some aspects of the Vedic yajña in the previous section and that of Avestan *Yasna* in the present one in Professor Dharmadhikari's paper are a great help in the understanding of these institutions. The fourth section comprises papers by K.T. Pandurangi, R. Krishnamurthy, K.E. Devanathan, V.N. Pandurangi, S. Revathy and Prahladachar. The papers make reviews of Pūrvamīmāṁsā doctrines as utilized in Vedānta and Nyāya systems of Indian philosophy. Here the interdisciplinary character of the publication stands out at its best. Preparation of two of the papers of the section by as many as four and three scholars each specializing in different schools of Vedanta is indicative of the care of the Editor to do full justice to the schools concerned in regard to the involvement of the *Mīmāṁsā* principles in them.

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The last section named *Mīmāṁsā Rules of Interpretation* is covered by two papers written by judicial luminaries like M. Rama Jois and Justice Markandey Katju highlighting the necessity of inclusion of Mīmāṁsā principles of jurisprudence in the judicial system of the country which was obliged to set them aside and forget under the pressure of the British system of education and judiciary as designed by Macaulay and worked out by Maxwell respectively.

Professor S. Revathy while discussing Pūrvamīmāṁsā criticism of Buddhism has observed that 'although the earlier writers held *Vedārthavicāra* or the investigation into the contents of the Vedas as the object of Mīmāmāṁsā, Śabarasvāmin seems to have deviated from the path of those earlier thinkers under the pressure of Buddhist criticism of "the authority of the Vedas on *dharma*", p. 529). This explains well the Mīmāṁsā's unnecessary obsession with certain ideas such as impersonal authorship of the Veda, eternity of the relation between the word and its meaning, etc., instead of devoting itself to its primary cause of evolving the principles of Vedic interpretation which has remained very much missing in it. Had it adopted that proper course, it was sure not to have become so tasteless as not to be able to attract the attention of scholars to it particularly in the modern age. Mīmāṁsā can regain its fascination if it returns to its primary concern of interpreatation of the Veda as a whole rather than go on harping on certain Brāhmanic statements such as *svarga-kāmo yajeta* in its deliberations and writings. If it considers the Veda as an infallible source of real knowledge, it becomes its bounden duty to prove it through textual evidence drawn copiously from the Saṁhitās themselves instead of continuing to rely on a few Brahmanic statements to that effect. Since the Saṁhitās are pre-eminently symbolic and only rarely straightforward in their statements concerning matters philosophical, a thorough programme of de-symbolisation of the texts is the need of the hour and this has to be fulfilled by the Mīmāṁsā system as this is its avowed responsibility.

As stated at the outset, the publication is a landmark in the history of Mīmāṁsā brought out particularly at a stage when interest in it is getting eroded so fast. *Pūrvamīmāṁsā from an Interdisciplinary*

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Point of View may be expected to counter this erosion to some extent by virtue of making out the relevance of the system to other systems of Indian philosophy as also to the jurisprudence of the nation.

Almost all the papers in this collaborative work are of high quality as they are products of mature scholarship, more than a third of it having been written by Professor Pandurangi himself.

SATYA PRAKASH SINGH
Former Professor and Chairman
Department of Sanskrit
Aligarh Muslim University
Aligarh

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R. Balasubramanian, ed. *The Enworlded Subjectivity: Its Three Worlds and Beyond,* New Delhi: PHISPC, 2006, pp. lxxxix+832, Rs. 2600.

One of the major tasks of philosophy is to understand the role of the individual and the relationship between the individual and others as well as with the world. As individuals we find ourselves in this world, find ourselves attempting to negotiate with it and make sense of our negotiations. The phenomenological tradition in the west brought this issue into focus in much the same way as certain dominant Indian philosophical traditions like Advaita Vedanta. There is one aspect that is strikingly common in all these deliberations about the nature of the individual. This has to do with the impermanence of the ordinary world which paradoxically catalyses the various ideas of transcendence that are found in philosophical and religious literature. Living in a finite world, in being aware of our finitude, we reach towards transcendence. How is this possible? Is this really a necessary human condition? The edited volume under review critically examines these central issues and offers a detailed and nuanced exploration of them.

The title *The Enworlded Subjectivity: Its Three Worlds and Beyond* is illustrative of the concerns of the volume. The nature of being human is often encapsulated within the idea of subjectivity. It is the human individual who is the locus of subjectivity. But what within the human constitutes this subjectivity? The idea of the enworlded subjectivity points out to the essential and inerasable relation between the individual and the world. There is no individual

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without the residue of the world within each individual. We are, as human subjects, essentially filled with our understanding of the world. But what is this world (or worlds) which co-constitutes our subjectivity? There is a well-known description by Popper and Eccles about three worlds: the primary world of ego and self, and the secondary worlds of the external world consisting of matter/energy and the world of culture. In the Upanisadic tradition there is a similar invocation of many worlds, three and four worlds. The three worlds constituting the waking experience, dream experience and deep sleep are worlds that we are aware of. According to the Upanisads, the fourth world is one that is beyond these worlds but still accessible to us.

The three world model classifies all our experiences as those that arise from our three states of waking, dream and deep sleep. This classification has an important role to play in our understanding of consciousness, the theme which is arguably the central concern of these traditions. Advaita Vedanta is concerned with these three states in so far as they are all pointers to the nature of consciousness. Thus, to understand the analysis of the enworlded individual it is not only necessary to understand these different kinds of experiences of the three worlds but also to accept a world which has various entities such as consciousness, mind, subtle body as well as relations such as between ourselves and the world or between oneself and others.

However, the seeds of the problem are also present in any such classification. Consciousness is disembodied whereas we as individuals as well as the world are all embodied. What is the relation between two such entities, one which is disembodied and the other embodied? Our consciousness is directed towards the world of objects but it in itself is not an object—it is indeed the subject. It is this distinction which lies at the heart of debates whether in Sankara or Husserl. These debates are very extensive and have occupied prominent philosophers for centuries. What does this volume do to add to this enormous corpus of literature on these topics?

The four major sections give an indication of the special concerns of the volume. The sections are titled as: Holistic Society;

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Encounter with the Other; Consciousness, Mind and Body; Values and Culture. There are 24 detailed chapters under these four sections. Without qualification, I must say that some of them are excellent pieces of analysis and scholarship. This in itself makes a book like this worthwhile.

The first section is on the holistic society. Many philosophical traditions have attempted to understand the problem of the one and the many in different ways. The use of plurals in language, the origin of the idea of classes and sets in mathematics and logic, the belief that although there are many manifestations there is only one real are some of the responses to this problem. For Advaita, there is no metaphysical reality ascribed to plurality; plurality are only appearances and the reality is only one. In the realm of plurality, there is also the quadrant comprising of earth and heavens, mortals and gods. As Balasubramanian notes, for Heidegger all manifestation is constituted by these four beings (lxvi). The section on holistic society explores these themes of the quadrant in the context of the Indian experience, first in the context of Vedic society and then in the Sangam society. The narratives about Vedic seers illustrate the 'possibility of elevation from the human to the divine' (13), thereby giving us one possible way of uniting two of the elements of the quadrant. But the interesting relationship between humans and gods is also related to the special relationship between earth and heaven. Here, the idea of the common space inhabited by both should not be understood only in terms of physical space.

Moving from the Vedic to Sangam period is also to move from the culture of Sanskrit to Tamil. The Sangam society is characterised by its love for nature—one illustration of their attunement to nature is manifested in the same classification they use for both landscapes as well as for flowers (39). The phenomenon of man, as P. Nandakumar notes, was also a central theme for Sangam literature. Man was not to be seen and evaluated only in terms of physical prowess, which nevertheless occupied an important place in a society which had to deal with natural and social conflicts. Although earthly life was important and occupied much of the

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attention of the people in the Sangam period, there is also a distinct, creative and developed engagement with the transcendent in various ways.

The third chapter engages with the idea of 'civil society'. Although this notion arises in the west as a response to modernity, Padmanabhan attempts to situate it within Indian society and begins by discussing the origins of the Indian society from ancient times. Rather than reduce the rich and complex historicity inherent in the process of the creation of these societies to the term 'civil society' we can instead note certain conceptual similarities. In particular, he identifies 'solidarity and subsidiarity' as two themes which are of great importance to civil society in the West and Indian society. The holistic society arises in the interaction between the individual and the collective and such interaction is to be found in the activities of solidarity and subsidiarity (96), although with the advent of the caste system the 'equilibrium between solidarity and subsidiarity is lost' (135). In a sense, holism in a way is captured in the popular slogan 'unity in diversity', a slogan which for the author 'captures the essence of Indian culture' (134). The last chapter in the section on holism engages with the ideal of unity and the various attempts to find unity such as the unity of the primal one, the Brahman-Atman unity, the ideal of Samatva, the unity of religions through inclusion, Tagore's 'creative unity', Gandhi's ideal of sarvodya as unity and so on.

Once the framework for holistic societies is in place, we can then consider the problem of the self and the other. The second section engages with the question of the other from different perspectives, beginning with the other constructed in science as against commonsense to a detailed explication of the tenets of religions such as Hinduisim, Jainism and Buddhism. However, the notion of the 'other' is at variance in these descriptions. At one level we can understand the other simply as something which is not itself. Thus, we can construct the other as the not-I, for instance. I presume that the opposition inherent in the other for Kak is between commonsense and science. While it is true that the reality for both of these are quite different it is not clear in what sense they are to

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be seen as being 'other'. Similarly, for Mishra, the fact that there are different religions seem to be enough to see them as the other. But the otherness cannot merely lie in difference because—as it happens in these analyses—it is enough to show that difference does not really exist in order to negate the otherness. Moreover, in the context of Advaita, the fact that the there is one ultimate reality means that recognition of the other (based only on difference) is only due to ignorance and in principle the other gets related to the one.

The final chapter in this section addresses the question of the other through an analysis of plurality by drawing upon modern Indian thinkers. This chapter by Saranindranath Tagore is a very good example of how to engage in a dialogue with Indian cultures with that of the west. Moving from the view that modernity leads to hegemony, Tagore points out that postmodernism can at best lead to apathy. And in between the large chasm between these two, he situates Indian responses to plurality. Rammohan was the 'first person in the modern Indian tradition who actively sought a theoretical position that was open to the world while rooted in tradition' (298) and was in the author's words the first person to read the 'plural dialogically'. Moving on, he considers Aurobindo's invocation of a 'spiritual religion of humanity' which will preserve diversity in unity and finally Rabindranath's view of unity and difference based on culture. Rabindranath rejects both hegemony and apathy, and drawing upon the diversity of India, he looks to a 'dialogic attitude towards difference' which understands unity not in terms of uniformity but in terms of harmony (306). And it is this harmony that is essentially present in culture.

The third section has seven chapters all dealing with consciousness. Since there is enormous literature available on this subject I will restrict myself to observations regarding some special features of some of these chapters. The first two chapters in this section offer some useful material on cognition in Indian philosophical traditions. Pradhan's chapter helps the reader make some immediate connections between western thought and some Indian traditions whereas Chakrabarti's detailed article on

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consciousness and self-consciousness engages dominantly with the Advaita-Nyaya debate on the nature of cognition as well as an interlude on the Mimasaka view of cognition and self-cognition. Kireet Joshi's chapter on Aurobindo brings together the story of consciousness into the fold of Aurobindo and his influential ideas on supramental consciousness. Bagchi's invocation of K.C. Bhattacharya's analysis of I is a much needed correction in the literature on consciousness and the enworlded subject. This chapter also discusses in some detail the interesting analysis of absence, particularly what does it mean to have a conscious experience of absence, a topic in which Bhattacharya has contributed some important insights. There are two other chapters both of which challenge our credulity at some points and how one engages with them depends on the subject's own inclination towards some of these issues. One is too general and the other is too esoteric. The final chapter in this section is an exhaustive one on consciousness by the Editor of this volume. While some aspects of the Advaitic view of consciousness is well known by now, the sections on the Janaka-Yajnavalkya debate as well as the detailed explication of the state of sleep along with the specifically Indian view that distinguishes consciousness and mind (which is interestingly related to the foundational and the functional aspects of consciousness) are very useful contributions from this chapter.

The final section is on values and culture. The chapters here range across quite a vast list of topics, from logical value to globalization and ecology. But the basic theme that is somewhat common to all these chapters is an emphasis on the essentiality of values and culture in any human civilization, beginning from logical value and moving towards aesthetic and ethical values. S. Rao, writing on logical value, notes that in Indian philosophical systems one can in general find the lack of distinction between truth and reality in the sense that to discuss truth we also need to invoke some related notions of reality. After a summary of epistemology in Indian systems, he discusses in some detail the many theories of error in various schools. Rao points out that because of the inter-relatedness of the notions of truth, reality and value, there is really no distinction

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made between logical and metaphysical value. What is important to note here is that the essential relation between truth, reality and value necessitates that values accrue to our understanding of the real world or the truths we hold—thereby bringing ethics into epistemology naturally.

How does a society or culture develop values? In the case of Indian society, it is often tempting to begin with the Vedic civilization and Veezhinathan's chapter discusses the moral truths of moral and cosmic order, obligation and dharma as the basis of order. The relevance of such ancient practices should not be underestimated since many of these rules/worldviews have sedimented into the common cultural practices in India today. In contrast, one can also see the relevance of such traditions as panaceas for modern problems and this is what Sasidhar does in using the relation with nature in the Vedic period to engage with the subject of ecology today. Showing how the Vedic worldview is based on 'empathy, compassion, and peaceful co-existence with nature' (700), and the enshrined views of earth as mother and goddess, he hopes that our ecological responses could and perhaps should be shaped by such views of nature. While some might hold that these views are ideal and thus impractical, I think there is sufficient evidence to believe that with a change in the mindset of how we view nature as well as other creatures, both human and not, we can definitely change the way the world is evolving. Whether we learn from Vedic civilization or any other empathetic worldview does not matter and what we learn from this book is how to draw sustenance from certain Indian traditions to help us change our perspective on the natural as well as the human world. It is not an accident then that the idea of dharma occurs in these and other chapters repeatedly. Arguably, dharma is the quintessential aspect of Indian thinking that has found a lived expression even today as well as that which offers ways of approaching the contradictions of modern life. Unfortunately, none of the authors critically engage with the idea of dharma but that is perhaps really not the task of this volume.

Other than rational/epistemological and moral values, cultures are distinguished by the values they place on aesthetics. Two

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chapters in this section deal with aesthetic value. Ramachandran's chapter engages with the multifaceted relationship between art and other themes such as its relation with truth, goodness, liberation and religion. The various rasas indicate how art played different roles such as invoking bhakti as well as peace. The author then concludes with a discussion on how the notion of beauty is applied to realms beyond the human, particularly in the Upanasadic tradition. In particular, the idea of beauty as applied to the cosmos and to gods illustrates a common Indian condition: the impossibility of separating the human from the divine in all kinds of activities. The chapter by Kapoor adds value to this discussion on aesthetics by beginning with the rasa-bhava theory and the various classifications of rasas and bhavas both in poetics as well as in other artistic experiences. One important analysis in this chapter is the delineation of the various effects of art experience, which, among other things, protects and restores good health, not only of the individual but also of the society. Like all other aspects of Indian worldview, the association of art with value is central to the aesthetics of art in the Indian context. Art transmits values, the right values, thus leading Kapoor to his conclusion that right from the beginning, 'aesthetics and ethics have been deeply interwoven with each other' (676).

The remaining chapters engage with some notion of ethics and values drawn from contemporary tradition, dominantly the western ones, and ranging from issues arising from globalisation to Chandel's detailed analysis of Marx, particularly emphasising the ethical foundation of his thought which is to be found in his thematisation of freedom. The final chapter in this volume deals primarily with Habermas and concludes with an interesting discussion, and particularly relevant in the context of this volume, on communicative praxis in some Indian philosophical traditions. It is perhaps apt that considerations of language ends these deliberations in this volume, for after all, it is philosophy of language that remains a unique contribution of ancient Indian traditions.

Like many of the other pioneering volumes published by the PHISPC, this volume too does a great service to scholars all over the

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world by bringing together in one book both scholarly and textual material as well as offer contemporary analysis of these materials. It, furthermore, illustrates well the ignorance about various traditions from within India, particularly those that compare very favourably with similar traditions in the west. There are many such examples in this volume: the study of consciousness in traditions such as Advaita Vedanta shares striking similarities with the western phenomenological tradition; hermeneutics, though popular in recent times in Continental philosophy has been one of the pillars of the Mimamsaka tradition; philosophy of language among the grammarians and Buddhists, among others; the ecological sensitiveness of the early traditions; values and Indian art, and in general the epistemology of the experience of art; knowledge and truth in Indian philosophical traditions; detailed analysis on the nature of consciousness as well as self-consciousness.

There are many potential problems in editing a volume such as this. First, the scope of the theme is large and one may find that there is some material that has slipped the bounds of the text! Second, is the problem of coherence—whether all the articles create a seamless text. Third is the problem of consistency, whether all articles meet some expected standard or whether there is significant variation among these articles. I would say that in spite of these potential problems the editor has succeeded in generating a text which is on the whole quite consistent. The Editor and the publisher must be commended for producing a volume which is not only professionally well-crafted but also intellectually satisfying while supplying a large amount of needed information about these subjects.

SUNDAR SARUKKAI
Professor
National Institute of Advanced Studies
Indian Institute of Science Campus
Bangalore

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Sandhān, Vol. VI, No. 1, January–June 2006

REPORTS

National Seminar on Synthesis of Yoga, Guwahati, 21–22 April 2006

A PHISPC National Seminar on *Synthesis of Yoga* was held in Guwahati on 21st and 22nd April, 2006, under the Chairmanship of Professor Kireet Joshi, Chairman of Indian Council of Philosophical Research. Professor Joshi is also editing a PHISPC Volume on the theme of the Seminar.

In his welcome address, Dr. B.B. Dutta, former Member of Parliament and Chairman of Sri Aurobindo Institute of Indian Culture, Shillong, pointed out that Assam had always been a confluence of different streams of spiritual and yogic traditions and a 'Cultural Highway' between Indian and China. He said that Guwahati was the appropriate place to probe the synthesis of various yogic systems.

The Seminar Chairman, Professor Joshi, made an introductory statement tracing in a historically chronological manner, various attempts made by the genius of India to bring together and synthesize diverse streams of yoga. He also presented a comprehensive theme paper on the subject.

In his inaugural Address, Professor D.P. Chattopadhyaya, Chairman of the Cente for Studies in Civilizations and the Project Director of the Project of History of Indian Science, Philosophy and Culture, focused on the intrinsic relations between yoga and evolution. He said that the issue needs to be studied in the backdrop of the new researches being done on evolution by the scientists. He also said that PHISPC has been conceived as an inter-disciplinary

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research and study effort and each theme needs to be looked into from the point of view of different disciplines. Professor Chattopadhyaya referred to various attempts made to bring together diverse yogic systems, particularly in Sri Aurobindo's *magnum opus, The Synthesis of Yoga.* He also referred to the yogic systems practised by other religious groups and in other countries and said that the PHISPC volume needs to bring out some of these aspects also. The inaugural session was chaired by Professor Shyam Kishore Singh.

In the first academic session of the seminar, chaired by Professor D.P. Chattopadhyaya, Professor Shyam Kishore Singh presented a paper titled 'Taoism as a Paradigm of the Synthesis of Yoga'. The paper brought out the areas of convergence between Taoism, an ancient Chinese philosophico-religious tradition, and Indian thought, especially Sāṅkhya-Yoga and Tantra. Referring to Sri Aurobindo's assessment and appreciation of Tāntric system of yogic practices, the learned author brought out how Taoism, which was developed in China and India's Tantra influenced each other to evolve a synthesis of yogic systems.

Professor T.N. Ganapathy presented a paper on 'Synthesis of Yoga in the Philosophy of the Siddhas'. The comprehensive paper focused on salient features of the Tantra tradition and brought out how there is a synthesis between the tāntric and yogic elements in the Siddha tradition with special reference to the Tamil Siddhas. The paper gave details of the various systems of Tantra related to the *Cakra,* the *Nāḍi,* the *Kundalini,* the three knots and the use of Haṭhayogic practises such as *āsana, bandha, mudrā* and *prāṇāyāma* in this synthetic system. An interesting aspect of the paper is a detailed exposition of the tāntric conception of the human body. The author has also focused on the use of the twilight language (*sāndhya bhāṣā*), whichh was meant to prevent these secret and powerful yoga systems from falling into the hands of such people who are not qualified to understand them (*anadhikārī*).

Dr. Aparna Banerjee presented a paper on 'Yoga and Knowledge' examining the epistemological claims of intuition

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vis-à-vis intellect and their relative strength and weakness. Drawing on Sri Aurobindo's writings on the subject, she focused on the continuity between different levels of existence and also man's access to other means of gaining knowledge, like knowledge by identity and direct intuition. She also stressed on the link between yoga and evolutionary process and pointed out that both Sri Aurobindo and Swami Vivekananda agreed that yoga is a method of compressing one's evolution into a single life or into a few years or even a few months of bodily existence.

In the second academic session, chaired by Professor G.C. Nayak, Professor S.P. Singh presented a paper 'On Synthetic Origin of Yoga in the Veda'. Quoting profusely from relevant Vedic verses, Professor Singh explained how the various elements, which were later known as *jñānayoga, Bhaktiyoga, Karmayoga, Haṭhayoga, Rājayoga, Mantrayoga* and *Tantra*, mingled to form a profound synthetic system of spiritual practices in the Veda.

Dr. N. Jayashanmugam's exposition was on the 'Synthesis of Yoga in the Upaniṣads'. Presenting the Upaniṣads in a historical context, the learned author explained how a new synthesis of various elements of yoga, was achieved in the era of the Upaniṣads. He also explained the change of approach from Veda to Vedānta, e.g., shifting of focus from the secret god Agni, the mystic fire, to the secret soul within us (*antarātmā*).

His paper was followed by an exposition of 'Synthesis of Yoga in the Tāntric (Śaiva-Śākta) Tradition' by Professor Kamalakar Mishra. He presented this ancient tradition of India as a synthesis of various yogic elements, highlighting its linkages with other great traditions particularly the Vedic and the Upaniṣadic. A comprehensive abstract of the proposed paper, was circulated in the seminar.

In the third academic session, chaired by Professor Kamalakar Mishra, Professor G.C. Nayak presented a paper on 'Synthesis of Yoga in Śrīmad Bhāgavata'. He pointed out that although Śrīmad Bhāgavata is considered as an exposition of *Bhaktiyoga*, it contains also the elements of other great systems like *Jñānayoga, Karmayoga, Haṭhayoga* etc.

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Shri Ram Mohun presented a paper on 'Synthesis of Yoga in Śaiva Siddhānta'. The comprehensive essay brought out how Śaiva Siddhānta has got as its source the Vedas and Āgamas and has also synthesized in itself other systems of yogic practices.

Shri A.K. Sen Gupta presented a paper titled '*Sapta Catuṣṭaya*: Revealation of the Synthesis of Yoga'. The essay referred to a mantra, consisting of seven tetrads, which Sri Aurobindo received as a *lipi* appearing before his eyes during the early period of his sādhanā as his 'programme of yoga', became the foundation of the massive system of Synthesis of Yoga that he developed in later years. The paper also brings out how various elements of the tetrads developed as *yoga śāstra* in the later writings of Sri Aurobindo as well as in the yogic experience of The Mother. He also focused on how some of the elements of the tetrads, like *ārogyam* (cure of diseases) and *utthāpana* (levitation) acquired deeper and more sublime connotation as the yoga of Sri Aurobindo and The Mother entered the phase of physical transformation.

In the last academic session, chaired by Professor Kireet Joshi, Professor Gangadhar Panda presented a paper on 'Synthesis of Yoga in Purāṇas'. The comprehensive paper has brought out the elements of various streams of yoga in the large number of Purāṇas and Upapurāṇas. The description of the yogic elements ranged from Haṭhayogic practices like *āsana, bandha, mudrā* and the *prāṇāyāma* to esoteric methods for achieving union with God.

A paper on 'Synthesis of Yoga in the philosophy of Caitanya' was presented by Shri Satya Narayana Dasa. The learned scholar focused on the gauḍiya system of Vaiṣṇavism and illustrated how this great scion of bhakti integrated other elements of yoga like *jñāna, karma, mantra, dhyāna* etc. in his system.

The last paper of the session presented by Dr. Debjani Roy, focused on yogic experience of Ashawapati in Sri Aurobindo's epic poem Savitri. She pointed out how yogic experiences at various levels of consciousness and reality have been graphically described in the verses of the epic.

In his concluding remarks, the Chairman, Professor Kireet Joshi, commented on the excellent quality of various papers. He also

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urged upon the respective authors to upgrade their papers in the light of the discussions in the seminar.

A.K. Sen Gupta
Resident Editor
PHISPC

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NEWS & NOTES

A Brief Report on the Activities of Centre for Studies in Civilizations

PHISPC Seminars

The following seminars were organized by PHISPC during January–June 2006.

1. February 2–4, 2006. *Seminar on Foundations of Sciences*, Bangalore (Professor B.V. Sreekantan).

2. February 27–28, 2006. *Seminar on Social Consciousness, Education and Culture in Colonial and Post-Colonial India: New Approaches*, New Delhi (Professor, Sabyasachi Bhattacharya).

3. March 17–18, 2006. *Seminar on Different Types of History*, Kolkata (Professor Bharati Ray).

4. March 20–21, 2006. *Seminar on History of Yoga*, New Delhi (Professor S.P. Singh).

5. April 21–22, 2006. *Seminar on Synthesis of Yoga*, Guwahati (Professor Kireet Joshi).

6. May 5–7, 2006. *Seminar on History of India's Polity, Governance and Constitutional Culture*, Guwahati (Dr. Subhas C. Kashyap).

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PHISPC and CONSSAVY (EXTENDED PHISPC PROJECT) Publications

Under the PHISPC series, publication of major volumes and monographs has been undertaken. The following are the Volumes in this series.

Conceptual Volumes

*Part 1 *Science, Philosophy and Culture: Multi-disciplinary Explorations*, D.P. Chattopadhyaya & Ravinder Kumar (ed.)

*Part 2 *Science, Philosophy and Culture: Multi-disciplinary Explorations*, D.P. Chattopadhyaya & Ravinder Kumar (ed.)

Volume I The Dawn and Development of Indian Civilization

*Part 1 *The Dawn of Indian Civilization (up to c. 600 BC)*, G.C. Pande (ed.)

*Part 2 *Life, Thought and Culture in India (from c. 600 BC to c. AD 300)*, G.C. Pande (ed.)

*Part 3 *India's Interaction with Southeast Asia*, G.C. Pande (ed.)

†Part 4 *A Golden Chain of Civilizations: Indic, Iranic, Semitic and Hellenic* up to c. 600 BC, G.C. Pande (ed.)

†Part 5 *A Golden Chain of Civilizations: Indic, Iranic, Semitic and Hellenic* from c. 600 BC to 600 AD, G.C. Pande (ed.)

†Part 6 *Purāṇas, History and Itihāsa*, Vidya Niwas Misra and N.S.S. Raman (ed.)

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VOLUME II LIFE, THOUGHT AND CULTURE IN INDIA (AD 300–1100)

*Part 1 *Life, Thought and Culture in India (AD 300–1000)*, K. Satchidananda Murty (ed.)
*Part 2 *Advaita Vedānta*, R. Balasubramanian (ed.)
*Part 3 *Theistic Vedānta*, R. Balasubramanian (ed.)
*Part 4 *Origin and Development of the Vaiśeṣika System*, Anantalal Thakur
†Part 5 *A Social History of India in the First Millennium AD*, B.D. Chattopadhyaya (ed.)
*Part 6 *Pūrvamīmāṁsā from an Interdisciplinary Point of View*, K.T. Pandurangi (ed.)

VOLUME III DEVELOPMENT OF PHILOSOPHY, SCIENCE AND TECHNOLOGY IN INDIA AND NEIGHBOURING CIVILIZATIONS

*Part 1 *History of Indian Science, Technology and Culture (AD 1000–1800)*, A. Rahman (ed.)
*Part 2 *India's Interaction with China, Central and West Asia*, A. Rahman (ed.)
*Part 3 *Development of Nyāya Philosophy and its Social Context*, Sibajiban Bhattacharyya (ed.)
†Parts 4 & 5 *Philosophical Concepts Relevant to Sciences in Indian Tradition*, Pranab Kumar Sen (ed.)
*Part 6 *India and China: Twenty Centuries of Civilizational Interaction and Vibrations*, Tan Chung & Geng Yinzeng
†Part 7 *The Trading World of the Indian Ocean, AD 1500-1800*, Om Prakash (ed.)

VOLUME IV FUNDAMENTAL INDIAN IDEAS OF PHYSICS, CHEMISTRY, LIFE SCIENCES AND MEDICINE

*Part 1 *Chemistry and Chemical Techniques in India*, B.V. Subbarayappa (ed.)

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*Part 2 *Medicine and Life Sciences in India*, B.V. Subbarayappa (ed.)
*Part 3 *Indian Perspectives on the Physical World*, B.V. Subbarayappa
†Part 4 *History of Indian Astronomy and Mathematics*, B.V. Subbarayappa (ed.)

VOLUME V AGRICULTURE IN INDIA

‡Parts 1 & 2 *A History of Agriculture in India*, Lallanji Gopal & V.C. Srivastava (ed.)

VOLUME VI CULTURE, LANGUAGE, LITERATURE AND ARTS

†Part 1 *Aesthetic Theories and Forms in Indian Tradition*, S.S. Barlingay, D.P. Chattopadhyaya and Kapila Vatsyayan (ed.)
†Part 2 *Architecture in India*, M.A. Dhaky (ed.)
*Part 3 *Indian Art: Forms, Concerns and Development in Historical Perspective*, B.N. Goswamy (ed.)
†Part 4 *Language, Grammar and Linguistics in Indian Tradition*, V.N. Jha (ed.)
‡Parts 5–10 *PHISPC in Regional Languages and Literatures*

VOLUME VII THE RISE OF NEW POLITY AND LIFE IN VILLAGES AND TOWNS

*Part 1 *The State and Society in Medieval India*, J.S. Grewal (ed.)
*Part 2 *Religious Movements and Institutions in Medieval India*, J.S. Grewal (ed.)
†Parts 3, 4 & 5 *Religious Systems of India*, S.R. Saha, N.S.S. Raman, M. Rafique and others (ed.)

VOLUME VIII ECONOMIC HISTORY OF INDIA

†Part 1 *Economic History of India from Thirteenth to Seventeenth Century*, Irfan Habib (ed.)
†Part 2 *Economic History of India from Eighteenth to Twentieth Century*, B.B. Chaudhuri

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Contributors

1. BINOD KUMAR AGARWALA, Professor, Department of Philosophy, North Eastern Hill University, Shillong.
2. D.P. AGRAWAL, Director, Lok Vigyan Kendra, Almora.
3. SIBESH BHATTCHARYA, Former Professor and Head of the Department of Ancient History, Culture and Archaeology, University of Allahabad, Allahabad.
4. RITA CHAUDHURI, Reader, Department of Ancient Indian History and Culture, University of Calcutta, Kolkata.
5. KIRAN PREET KAUR, Reader, Sociology Department, Panjab University, Chandigarh.
6. BHAGAT OINAM, Associate Professor, Centre for Philosophy, Jawaharlal Nehru University, New Delhi.
7. A.K. SENGUPTA, Resident Editor, PHISPC, New Delhi.
8. MAHENDRA PRASAD SINGH, Professor of Political Science, Delhi University, Delhi.
9. SATYA PRAKASH SINGH, Former Professor Department of Sanskrit, Aligarh Muslim University, Aligarh.
10. PUSHPA TIWARI, Reader, Department of Ancient History, Culture and Archaeology, University of Allahabad, Allahabad.
11. SUNDAR SARUKKAI, National Institute of Advanced Studies, Bangalore.

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